

704 FORTRAN II  
TABLE OF CONTENTS FOR 4K-8K VERSION

SAP LISTINGS OF THE 4K AND 8K DRUM VERSIONS.

THESE LISTINGS CONSTITUTE THE ENTIRE FINAL VERSION OF 704 FORTRAN II. LISTINGS OF ASSOCIATED PROGRAMS, SUCH AS THE EDITOR, HAVE ALSO BEEN INCLUDED. THE LISTINGS HAVE BEEN ARRANGED SO THAT THERE IS A CLOSE CORRESPONDENCE WITH THE RECORDS ON THE FINAL FORTRAN II MASTER TAPE. WHEREVER, ON THE MASTER TAPE, A SINGLE FORTRAN RECORD MUST APPEAR AS SEPARATE 4K AND 8K VERSIONS, THE MAIN LISTINGS SEQUENCE INCLUDES THE 4K VERSION. THE 8K RECORDS, THEREFORE, APPEAR AT THE END. FURTHER INFORMATION PERTINENT TO THESE LISTINGS AND THE FORTRAN II MASTER TAPE CAN BE FOUND IN THE OPERATIONS MANUAL, PARTICULARLY ON PAGES 5 THROUGH 15.

THE FOLLOWING FORTRAN II RECORDS ARE DIAGNOSTIC CALL-IN RECORDS AND ARE BASICALLY THE SAME. FOR THIS REASON THEY HAVE BEEN OMITTED FROM THE MAIN LISTINGS. AN EXAMPLE OF A DIAGNOSTIC CALL-IN RECORD CAN BE FOUND ON PAGE 969 OF THESE LISTINGS.

2	035	054	074	093
4	038	057	077	095
6	040	059	079	097
8	042	061	081	099
23	044	063	083	102
25	046	066	085	104
28	048	068	087	106
31	050	070	089	108
33	052	072	091	114

TABLE OF CONTENTS  
FORTRAN  
RECORD NUMBER

CONTENTS	RECORD NUMBER	PAGE
1-CS	000	1
CARD TO TAPE	001	2
SECTION 6	003	6
SECTION 6      RECORD R	005	14
SECTION 6      RECORD S	007	18
SECTION 6      RECORD T	009	20
SUCCESSFUL COMPILATION	010	21
SOURCE PROGRAM ERROR	012	22
BATCH MONITOR	013	30
MACHINE ERROR	014	31
SECTION 1      /4K VERSION/	015	58
	016	123
	017	109
	018	95
	019	50
SECTION 1 DIAGNOSTIC	020	143

CONTENTS	FORTTRAN RECORD NUMBER	PAGE
SECTION 1 PRIME	021	202
	022	181
	024	190
SECTION 1 DOUBLE PRIME	026	207
SECTION 2 BLOCK 1	027	221
SECTION 2 BLOCK 2	029	277
	030	269
	032	258
	034	240
SECTION 2 BLOCK 3	036	279
	037	282
	039	285
	041	287
	043	296
SECTION 2 BLOCK 4	045	301
SECTION 2 BLOCK 5	047	312
	049	345
	051	314
SECTION 2 BLOCK 6	053	371
SECTION 3 OPEN SUBROUTINES	055	373
SECTION 3 PART 1 OF MERGE	056	376
SECTION 3 PART 2 OF MERGE	058	400
SECTION 3 PART 3 OF MERGE	060	426
SECTION 4 /4K AND 8K VERSIONS/	062	441
	064	455
	065	466
	067	468
	069	473
	071	475
	073	478
SECTION 5 /4K VERSION/	075	489
	076	544
	078	546
	080	546
	082	547
	084	547
	086	551
	088	554
SECTION 5 PRIME	090	583
SECTION 6 RECORD A	092	591
SECTION 6 RECORD B	094	606
SECTION 6 RECORD C	096	610
SECTION 6 RECORD D	098	616
SECTION 6 RECORD E	100	620
SECTION 6 RECORD F	101	623
SECTION 6 RECORD G	103	626
SECTION 6 RECORD H	105	633

II

CONTENTS	FORTTRAN RECORD NUMBER	PAGE
SECTION 6	RECORD I	107
SECTION 6	RECORD J	109
SECTION 6	RECORD K	110
SECTION 6	RECORD L	111
SECTION 6	RECORD M	112
SECTION 6	RECORD N	113
SECTION 6	RECORD P	115
SECTION 1	/8K VERSION/	014A
		016A
SECTION 5	/8K VERSION/	075A
		076A
		078A
		080A
		082A
		084A
		086A
		088A
DBC	PERMANENT LIBRARY	885
CSH	PERMANENT LIBRARY	897
TSH	PERMANENT LIBRARY	900
BDC	PERMANENT LIBRARY	901
SCH	PERMANENT LIBRARY	913
SPH	PERMANENT LIBRARY	916
STH	PERMANENT LIBRARY	920
LRT	PERMANENT LIBRARY	921
EXP 1	PERMANENT LIBRARY	924
EXP 2	PERMANENT LIBRARY	925
EXP 3	PERMANENT LIBRARY	927
LOG	GENERAL LIBRARY	930
SIN/COS	GENERAL LIBRARY	931
EXP	GENERAL LIBRARY	934
SQRT	GENERAL LIBRARY	936
ATAN	GENERAL LIBRARY	937
TANH	GENERAL LIBRARY	939
EDT	EDITOR PROGRAM	941
PLIB	PERMANENT LIBRARIAN	946
GLIB	GENERAL LIBRARIAN	949
TCVP	TAPE COPY & VERIFY PROGRAM	955
BSS LOADER	BINARY SYMBOLIC SUBROUTINE LOADER	960
DIAGNOSTIC EDITOR		965
DIAGNOSTIC CALL-IN EXAMPLE		969
DIAGNOSTIC READ-IN		970
MAIN DIAGNOSTIC RECORD		971
DIAGNOSTIC ERROR COMMENT #1		993
THROUGH		THROUGH
DIAGNOSTIC ERROR COMMENT #190		1321





REM 704 FORTRAN SELF LOADING RECORD 1 TO CS.  
704 FORTRAN SELF LOADING RECORD 1 TO CS.

00000 0 53400 1 00000 LXA 0,1  
00001 0 70000 1 00002 CPY 2,1  
00002 1 00001 1 00001 TXI 1,1,1  
00003 0 70000 1 00031 CPY 25,1  
00004 0 00000 0 00003 HTR 3  
00005 0 10000 0 00000 TZE 0  
00006 0 76000 0 00006 COM  
00007 0 36100 0 00002 ACL 2  
00010 0 76000 0 00006 COM  
00011 0 02000 0 00027 TRA 23  
00012 -0 76000 0 00012 RTT  
00013 0 76600 0 00333 IOD  
00014 0 00000 0 00000 HTR 0  
00015 1 77777 1 00015 TXI 13,1,-1  
00016 -0 70000 1 00000 CAD 0,1  
00017 -0 50000 0 00017 CAL 15  
00020 0 62100 0 00026 STA 22  
00021 0 77100 0 00022 ARS 18  
00022 0 62100 0 00015 STA 13  
00023 -0 50000 0 00017 CAL 15  
00024 0 70000 0 00017 CPY 15  
00025 0 70000 0 00002 CPY 2  
00026 0 76200 0 00221 RTB 1  
00027 -0 53400 1 00027 LXD 23,1  
00030 0 70000 0 00003 CPY 3  
00031 -0 76000 0 00007 LTM  
00032 0 76400 0 00221 BST 145  
00000 00000 END

IN MEMORY IT LOOKS

0	00	LXA	0,1
1	01	CPY	25,1
2	02	LTM	
3	03	BST	145
4	04	LXD	23,1
5	05	RTB	1
6	06	CPY	2
7	07	CPY	15
8	10	CAL	15
9	11	STA	13
10	12	ARS	18
11	13	STA	22
12	14	CAL	15
13	15	CAD	0,1
14	16	TXI	13,1,-1
15	17	HTR	0
16	20	IOD	
17	21	RTT	
18	22	TRA	23
19	23	COM	
20	24	ACL	2
21	25	COM	
22	26	TZE	0
23	27	HTR	3

Enter 04 to read  
next record.

Word 1 in = check sum

2 address = starting core  
for word 3

2 decrement = transfer location

A.

1  
1

## REM FORTRAN II CARD-TO-TAPE

## FORTRAN II CARD-TO-TAPE

			00110	ORG 72	
			00110 0 76200 0 00321	BEGIN RCD 1	
			00111 -0 53400 1 00125	LXD ADD01,1	
			00112 -0 53400 2 00127	LXD ADD02,2	
			00113 0 70000 0 00340	ADD23 CPY L9ROW	COPY 92
TD			00114 -3 00000 0 00116	TXL ADD03,	
			00115 0 02000 4 00002	TRA 2,4	EOF TR
			00116 -0 60000 0 00332	ADD03 STQ DATA1	STORE 9L
			00117 -0 63400 1 00125	SXD ADD01,1	
			00120 -0 63400 2 00127	SXD ADD02,2	
			00121 -0 53400 1 00135	LXD ADD04,1	
			00122 0 70000 0 00341	CPY R9ROW	COPY 9R
			00123 -0 60000 0 00333	STQ DATA2	STORE 9R
			00124 0 07400 2 00265	TSX SUB1,2	EXIT ENTRY1 SUB1
TD			00125 -3 00000 0 00130	ADD01 TXL ADD05	RETURN1
			00126 0 76700 0 00001	ALS 1	RETURN2
TD			00127 -3 00000 0 00317	ADD02 TXL ADD06	EXIT TO ENTRY2 SUB1
			00130 0 70000 0 00334	ADD05 CPY DATA3	
			00131 -0 60000 0 00332	STQ DATA1	
			00132 0 70000 0 00335	CPY DATA4	COPY RIGHT
			00133 -0 60000 0 00333	STQ DATA2	
			00134 0 07400 2 00265	TSX SUB1,2	
			00135 -3 00010 0 00140	ADD04 TXL ADD07,0,8	RETURN1
			00136 0 76700 0 00003	ALS 3	RETURN2
TD			00137 -3 00000 0 00316	TXL ADD08	
			00140 -0 50000 0 00340	ADD07 CAL L9ROW	
			00141 0 60200 0 00332	SLW DATA1	
			00142 -0 50000 0 00341	CAL R9ROW	
			00143 0 60200 0 00333	SLW DATA2	
			00144 -3 00001 1 00170	ADD14 TXL ADD09,1,1	
			00145 0 70000 0 00340	ADD15 CPY L9ROW	
TD			00146 -3 00000 0 00151	TXL ADD10	
			00147 0 00000 0 00110	ADD12 HTR BEGIN	EOF
TD			00150 -3 00000 0 00210	TXL ADD11	EOR
			00151 -0 50000 0 00340	ADD10 CAL L9ROW	
			00152 -0 32000 0 00332	ANA DATA1	
			00153 -0 10000 0 00147	TNZ ADD12	
			00154 -0 50000 0 00340	CAL L9ROW	
			00155 -0 60200 0 00332	ORS DATA1	
			00156 0 70000 0 00341	CPY R9ROW	
			00157 -0 50000 0 00341	CAL R9ROW	
			00160 -0 32000 0 00333	ANA DATA2	
			00161 -0 10000 0 00147	TNZ ADD12	
			00162 -0 50000 0 00341	CAL R9ROW	
			00163 -0 60200 0 00333	ORS DATA2	
			00164 -2 00001 1 00204	TNX ADD13,1,1	
			00165 0 07400 2 00265	TSX SUB1,2	
TD			00166 -3 00000 0 00144	TXL ADD14	RETURN1
TD			00167 -3 00000 0 00316	TXL ADD08	RETURN2
			00170 -0 50000 0 00334	ADD09 CAL DATA3	
			00171 -0 50100 0 00332	ORA DATA1	
			00172 0 60200 0 00334	SLW DATA3	

	00173	0	70000	0	00336	CPY DATA5	
	00174	-0	32000	0	00336	ANA DATA5	
	00175	0	60200	0	00332	SLW DATA1	
	00176	-0	50000	0	00335	CAL DATA4	
	00177	-0	50100	0	00333	ORA DATA2	
	00200	0	60200	0	00335	SLW DATA4	
	00201	0	70000	0	00337	CPY DATA6	
	00202	-0	32000	0	00337	ANA DATA6	
	00203	0	60200	0	00333	SLW DATA2	
	00204	0	07400	2	00265	ADD13 TSX SUB1,2	
TD	00205	-3	00000	0	00145	TXL ADD15	RETURN1
	00206	0	76700	0	00004	ALS 4	RETURN2
TD	00207	-3	00000	0	00316	TXL ADD08	
	00210	-0	50000	0	00332	ADD11 CAL DATA1	
	00211	0	60200	0	00340	SLW L9ROW	
	00212	-0	50000	0	00334	CAL DATA3	
	00213	0	76000	0	00006	COM	
	00214	-0	32000	0	00336	ANA DATA5	
	00215	0	32000	0	00332	ANS DATA1	
	00216	-0	50000	0	00333	CAL DATA2	
	00217	0	60200	0	00341	SLW R9ROW	
	00220	-0	50000	0	00335	CAL DATA4	
	00221	0	76000	0	00006	COM	
	00222	-0	32000	0	00337	ANA DATA6	
	00223	0	32000	0	00333	ANS DATA2	
	00224	0	07400	2	00265	TSX SUB1,2	
TD	00225	-3	00000	0	00233	TXL ADD16	RETURN1
	00226	0	60200	0	00331	SLW DATA0	RETURN2
	00227	0	76700	0	00002	ALS 2	
	00230	0	36100	0	00331	ACL DATA0	
	00231	0	76700	0	00001	ALS 1	
TD	00232	-3	00000	0	00316	TXL ADD08	
	00233	-0	50000	0	00334	ADD16 CAL DATA3	
	00234	0	76000	0	00166	SWT 6	
	00235	0	02000	0	00241	TRA ADD34	
TD	00236	-3	00000	0	00407	ADD32 TXL ADD31	
	00237	0	76600	0	00205	ADD33 WTD 5	
	00240	0	02000	0	00242	TRA ADD29	
	00241	0	76600	0	00202	ADD34 WTD 2	
	00242	-0	50100	0	00336	ADD29 ORA DATA5	
	00243	-0	50100	0	00340	ORA L9ROW	
	00244	0	76000	0	00006	COM	
	00245	0	60200	0	00332	SLW DATA1	
	00246	-0	50000	0	00335	CAL DATA4	
	00247	-0	50100	0	00337	ORA DATA6	
	00250	-0	50100	0	00341	ORA R9ROW	
	00251	0	76000	0	00006	COM	
	00252	0	60200	0	00333	SLW DATA2	
	00253	0	07400	2	00265	TSX SUB1,2	
TD	00254	-3	00000	0	00262	TXL ADD17	RETURN1
	00255	0	60200	0	00331	SLW DATA0	RETURN2
	00256	0	76700	0	00001	ALS 1	
	00257	0	36100	0	00331	ACL DATA0	
	00260	0	76700	0	00004	ALS 4	

TD	00261	-3	00000	0	00316		TXL	ADD08
	00262	-0	53400	1	00125	ADD17	LXD	ADD01,1
	00263	-0	53400	2	00127		LXD	ADD02,2
	00264	0	02000	4	00003		TRA	3,4
	00265	-0	63400	1	00327	SUB1	SXD	ADD18,1
	00266	0	76000	0	00141		SLN	1
	00267	-0	50000	4	00001		CAL	1,4
	00270	0	40000	0	00330		ADD	CONS1
	00271	0	56000	0	00332		LDQ	DATA1
	00272	0	62100	0	00317	ADD22	STA	ADD06
00273	0	62100	0	00316		STA	ADD08	
00274	3	00001	1	00300		TXH	ADD19,1,1	
00275	-0	60000	0	00331		STQ	DATA0	
00276	-0	50000	0	00331		CAL	DATA0	
00277	0	10000	0	00322		TZE	ADD20	
T	00300	0	53400	1	00330	ADD19	LXA	CONS1,1
	00301	-0	75400	0	00014	ADD21	PXD	12
	00302	-0	76300	0	00001		LGL	1
	00303	0	76700	0	00005		ALS	5
	00304	-0	76300	0	00001		LGL	1
	00305	0	76700	0	00005		ALS	5
	00306	-0	76300	0	00001		LGL	1
	00307	0	76700	0	00005		ALS	5
	00310	-0	76300	0	00001		LGL	1
	00311	0	76700	0	00005		ALS	5
	00312	-0	76300	0	00001		LGL	1
	00313	0	76700	0	00005		ALS	5
	00314	-0	76300	0	00001		LGL	1
	00315	0	02000	2	00002		TRA	2,2
	00316	0	36100	1	00000	ADD08	ACL	0,1
	00317	0	60200	1	00000	ADD06	SLW	0,1
	00320	2	00001	1	00301		TIX	ADD21,1,1
	00321	-0	53400	1	00327		LXD	ADD18,1
	00322	-0	76000	0	00141	ADD20	SLT	1
	00323	0	02000	2	00001		TRA	1,2
	00324	0	56000	0	00333		LDQ	DATA2
	00325	-0	50000	4	00001		CAL	1,4
	00326	0	40100	0	00301		ADM	ADD21
	00327	-3	00000	0	00272	ADD18	TXL	ADD22,0,**
	00330	0	00000	0	00006		CONS1	HTR 6
	00331	0	00000	0	00000		DATA0	HTR
	00332	0	00000	0	00000		DATA1	HTR
	00333	0	00000	0	00000		DATA2	HTR
00334	0	00000	0	00000		DATA3	HTR	
00335	0	00000	0	00000		DATA4	HTR	
00336	0	00000	0	00000		DATA5	HTR	
00337	0	00000	0	00000		DATA6	HTR	
00340	0	00000	0	00000		L9ROW	HTR	
00341	0	00000	0	00000		R9ROW	HTR	
00342	0	77200	0	00202	START	REW	2	
00343	0	76000	0	00140		SLN	0	
00344	0	76200	0	00321	ADD27	RCD	1	
00345	0	07400	4	00113		TSX	ADD23,4	
00346	0	00000	0	00373		HTR	RECOR	

INDEX=1

CLEAN ACC  
1ST IN ACC  
100000  
1000001  
100000100000  
1000001000001

1000001000001000001000001000001  
ADDRESS COMPUTED AT ADD22 IN ADDRESS  
ENTRY2 ADDRESS PREV. COMPUTED AT ADD22

OFF  
SENSE LIGHT ON

IR1 STORED IN DECREMENT

9L ROW  
9R ROW

TD	00347	-3	00000	0	00355	TXL	ADD24	RETURN3
	00350	0	76000	0	00142	SLN	2	RETURN4
	00351	-0	53400	4	00354	LXD	ADD25,4	
	00352	0	70000	4	00407	ADD26	CPY BLOCK,4	
	00353	2	00001	4	00352	TIX	ADD26,4,1	
	00354	-3	00014	0	00344	ADD25	TXL ADD27,0,12	
	00355	-0	76000	0	00142	ADD24	SLT 2	
	00356	0	02000	0	00363	TRA	ADD28	OFF
	00357	0	76000	0	00166	SWT	6	
	00360	0	02000	0	00414	TRA	ADD30	
	00361	0	77000	0	00205	WEF	5	
	00362	0	77200	0	00205	REW	5	
	00363	0	76200	0	00221	ADD28	RTB 1	
	00364	0	70000	0	00373	CPY	RECOR	
	00365	0	02000	0	00363	TRA	ADD28	EOF
	00366	0	02000	0	00004	TRA	4	
	00367	0	77200	0	00201	REW	1	
	00370	0	76200	0	00221	RTB	1	
	00371	0	76200	0	00221	RTB	1	
	00372	0	07400	4	00004	TSX	4,4	
A	00373	0	00000	0	00000	RECOR	HTR	
					00407	BLOCK	BES 11	
	00407	0	77200	0	00205	ADD31	REW 5	
	00410	0	50200	0	00236	CLS	ADD32	
	00411	0	60100	0	00236	STO	ADD32	
	00412	-0	50000	0	00334	CAL	DATA3	
	00413	0	02000	0	00237	TRA	ADD33	
	00414	0	77000	0	00202	ADD30	WEF 2	
	00415	0	77200	0	00202	REW	2	
	00416	0	02000	0	00363	TRA	ADD28	
A					00000		END	

\*\*\*\*\* FORTRAN II SECTION SIX \*\*\*\*\* F6R00010  
FORTRAN 2 RECORD 0003 - CIT TO SAP CONVERSION. F6R00011

## CIT TO SAP CONVERSION

		00210	ORG 136		F6R00012
M.	00210	0 50000 0 00162	START CLA ONE		F6R00030
	00211	0 34000 0 00200	CAS SW2		F6R00040
	00212	0 02000 0 00700	TRA ADD01	SW2 EQUAL ZERO, ASSUME SWITCH TWO UP,	F6R00050
	00213	0 02000 0 00216	TRA LIB1	SW2 EQUAL ONE, ASSUME SWITCH TWO DOWN,	F6R00060
	00214	0 76000 0 00162	SWT 2	EQUAL TWO. TEST SWITCH TWO	F6R00070
	00215	0 02000 0 00700	TRA ADD01		F6R00080
	00216	0 77200 0 00204	LIB1 REW 4	SW TWO DOWN.	F6R00090
	00217	0 77000 0 00202	WEF 2		F6R00100
	00220	-0 53400 2 00221	LXD ADD02,2	SET READ ERROR COUNTER.	F6R00110
	00221	1 00005 0 00223	ADD02 TXI ADD03,0,5		F6R00120
	00222	0 76400 0 00204	ADD05 BST 4		F6R00130
	00223	0 76200 0 00224	ADD03 RTB 4	READ TAPE 4	F6R00140
	00224	0 53400 1 00726	LXA DATA1,1		F6R00150
	00225	0 70000 1 01162	ADD04 CPY REC03,1	CPY INTO REC-1, REC-2,---	F6R00160
	00226	1 00001 1 00225	TXI ADD04,1,1		F6R00170
	00227	0 02000 0 00700	TRA ADD01	END OF FILE ON TAPE 4.	F6R00180
	00230	0 77100 0 00377	ARS 255		F6R00190
	00231	0 77100 0 00377	ARS 0255		F6R00200
	00232	-0 76000 0 00012	RTT		F6R00210
	00233	2 00001 2 00222	TXI ADD05,2,1	IF ERROR.	F6R00220
	00234	-0 63400 1 00440	SXD ADD06,1	SAVE COUNT OF NO. OF WORDS READ IN.	F6R00230
	00235	0 53400 1 00677	LXA ADD07,1	SET XR1=0	F6R00240
	00236	-0 63400 1 00442	IN207 SXD ADD08,1	SAVE XR1.	F6R00250
	00237	-0 50000 1 01163	CAL RECOR,1	STORE SL IN DATA2	F6R00260
	00240	0 60200 0 00775	SLW DATA2	STORE OP IN DATA3	F6R00270
	00241	-0 50000 1 01162	CAL RECO3,1		F6R00280
	00242	0 60200 0 00776	SLW DATA3		F6R00290
	00243	-0 50000 1 01161	CAL RECO2,1	STORE SA IN DATA4	F6R00300
	00244	0 60200 0 00777	SLW DATA4		F6R00310
	00245	-0 50000 1 01160	CAL RECO1,1	STORE RA IN DATA5	F6R00320
	00246	0 60200 0 01000	SLW DATA5		F6R00330
	00247	0 56000 0 00710	LDQ DATA6		F6R00340
	00250	-0 60000 0 01007	STQ E1005	STORE BLANKS IN E1006,1007,1010,1005.	F6R00350
	00251	-0 60000 0 01010	STQ E1006		F6R00360
	00252	-0 60000 0 01011	STQ E1007		F6R00370
	00253	-0 60000 0 01012	STQ E1010		F6R00380
	00254	-0 50000 0 00775	CAL DATA2	TEST SYMBOLIC LOCATION.	F6R00390
	00255	0 10000 0 00305	TZE ADD09	IF ZERO, GO TO ADD09.	F6R00400
	00256	0 76500 0 00036	LRS 30	NOT ZERO. SEE IF SL(1) EQUAL ZERO.	F6R00410
	00257	0 10000 0 00303	TZE ADD10	SL(1) EQUAL ZERO, GO TO ADD10.	F6R00420
	00260	0 40200 0 00722	SUB DATA7	SL(1) NOT EQUAL ZERO. SEE IF EQUAL 15.	F6R00430
	00261	-0 10000 0 00264	TNZ ADD11	SL(1) NOT EQUAL 15. GO TO ADD11	F6R00440
	00262	-0 50000 0 00710	CAL DATA6	SL(1) EQUAL 15. PUT BLANKS IN AC AND	F6R00450
	00263	0 02000 0 00306	TRA ADD12	GO TO ADD12	F6R00460
	00264	0 40000 0 00722	ADD11 ADD DATA7	RESTORE SL(1) IN AC.	F6R00470
	00265	0 40200 0 00614	SUB LIB3		F6R00480
	00266	0 10000 0 00612	TZE LIB2	IF SL(1)=5, GO TO LIB2	F6R00490
	00267	0 40000 0 00614	ADD LIB3		F6R00500
					F6R00510

00270 0 40200 0 00616 SUB LIB5  
 00271 0 10000 0 00617 TZE LIB6  
 00272 0 40000 0 00616 ADD LIB5  
 00273 0 40200 0 00722 SUB DATA7  
 00274 0 12000 0 00301 TPL ME1  
 00275 0 40000 0 00722 ADD DATA7  
 00276 -0 77300 0 00001 RQL 1  
 00277 0 07400 1 00603 TSX SUB1,1  
 00300 0 02000 0 00306 TRA ADD12  
 00301 -0 50000 0 00775 ME1 CAL DATA2  
 00302 0 02000 0 00306 TRA ADD12  
 00303 -0 76300 0 00015 ADD10 LGL 13  
 00304 0 07400 1 00654 TSX SUB2,1  
 00305 -0 76300 0 00044 ADD09 LGL 36  
 00306 0 60200 0 01005 ADD12 SLW E1003  
 00307 0 56000 0 00776 IN245 LDQ DATA3  
 00310 0 50200 0 00717 CLS DATA8  
 00311 -0 76300 0 00022 LGL 18  
 00312 -0 60000 0 01001 STQ E0777  
 00313 0 56000 0 00710 LDQ DATA6  
 00314 -0 76300 0 00006 LGL 6  
 00315 0 76700 0 00006 ALS 6  
 00316 0 60100 0 01006 STO E1004  
 00317 0 34000 0 00707 CAS DATA9  
 00320 0 02000 0 00325 TRA ADD13  
 00321 0 02000 0 00566 TRA ADD14  
 00322 0 34000 0 00706 CAS DATA10  
 00323 0 02000 0 00325 TRA ADD13  
 00324 0 02000 0 00525 TRA ADD15  
 00325 0 56000 0 00777 ADD13 LDQ DATA4  
 00326 -0 75400 0 00000 PXD  
 00327 -0 76300 0 00006 LGL 6  
 00330 -0 10000 0 00343 TNZ IN301  
 00331 -0 76300 0 00014 LGL 12  
 00332 -0 10000 0 00352 TNZ IN310  
 00333 0 56000 0 00710 LDQ DATA6  
 00334 0 50000 0 01000 CLA DATA5  
 00335 -0 10000 0 00510 TNZ IN446  
 00336 0 50000 0 01001 CLA E0777  
 00337 -0 10000 0 00362 TNZ IN320  
 00340 -0 50000 0 00715 CAL DT713  
 00341 -0 60200 0 01006 ORS E1004  
 00342 0 02000 0 00431 TRA IN367  
 00343 0 34000 0 00717 IN301 CAS DATA8  
 00344 0 02000 0 00355 TRA IN313  
 00345 0 07400 4 00004 TSX 4,4  
 00346 0 07400 1 00603 TSX SUB1,1  
 00347 0 76500 0 00036 LRS 30  
 00350 -0 77300 0 00001 RQL 1  
 00351 0 02000 0 00355 TRA IN313  
 00352 0 07400 1 00654 IN310 TSX SUB2,1  
 00353 -0 75400 0 00000 PXD  
 00354 -0 76300 0 00006 LGL 6  
 00355 -0 60200 0 01006 IN313 ORS E1004

IF SL(1)=1, GO TO LIB6

GO TO ME1 IF SL(1) GREATER THAN 15 (I.E., ALPHA-  
 SL(1) LESS THAN 15, NOT ZERO, ASSEMBLE SYMBOL.  
 AND GO TO SUB1 (TIV TYPE ENTRY).

IFN. ASSEMBLE SYMBOL AND GO TO SUB2.

SYMBOLIC LOC EQUAL ZERO. PUT BLANKS IN ACC.  
 STORE ACC. IN E1003.  
 SELECT OP IN MQ.

STORE DECREMENT IN E0777.  
 LOAD MQ WITH BLANKS

STORE IN E1004.  
 IS OP EQUAL OCT.  
 OP LESS THAN OCT  
 OP EQUAL OCT. GO TO ADD14.  
 OP GREATER THAN OCT. SEE IF OP=BCD.

OP EQUAL BCD. GO TO ADD15.  
 OP NOT BCD OR OCT.  
 SELECT SA IN MQ.

SA(1) NOT EQUAL ZERO. GO TO IN301.  
 SA(1) EQUAL ZERO. TEST FOR INTERNAL  
 FORMULA NUMBER TYPE. IF YES, GO TO IN310.  
 SA(1),SA(2),SA(3) EQUAL ZERO. LOAD MQ WITH  
 TEST FOR NOW-ZERO TAG OR RELATIVE ADDRESS.  
 NOT EQUAL ZERO. GO TO IN446  
 RA EQUAL ZERO. TEST FOR NON-ZERO DECREMENT.  
 NOT ZERO, GO TO IN320  
 ZERO, OR A BLANK TO RT-HAND END OF E1004.

TEST IF SA(1)=16.  
 GREATER THAN 16(TRUE SYMBOL). GO TO IN313.  
 EQUAL IS ERROR.  
 LESS THAN 16 (TIV ENTRY TYPE). GO TO SUB1.  
 RETURN FROM SUB1.

INTERNAL FORMULA NO. TYPE.

F6R00520  
 F6R00530  
 F6R00540  
 F6R00550  
 F6R00560  
 F6R00570  
 F6R00580  
 F6R00590  
 F6R00600  
 F6R00610  
 F6R00620  
 F6R00630  
 F6R00640  
 F6R00650  
 F6R00660  
 F6R00670  
 F6R00680  
 F6R00690  
 F6R00700  
 F6R00710  
 F6R00720  
 F6R00730  
 F6R00740  
 F6R00750  
 F6R00760  
 F6R00770  
 F6R00780  
 F6R00790  
 F6R00800  
 F6R00810  
 F6R00820  
 F6R00830  
 F6R00840  
 F6R00850  
 F6R00860  
 F6R00870  
 F6R00880  
 F6R00890  
 F6R00900  
 F6R00910  
 F6R00920  
 F6R00930  
 F6R00940  
 F6R00950  
 F6R00960  
 F6R00970  
 F6R00980  
 F6R00990  
 F6R01000  
 F6R01010  
 F6R01020  
 F6R01030  
 F6R01040  
 F6R01050

00356	-0	60000	0	01002	STQ	E1000	
00357	-0	50000	0	00715	CAL	DT713	
00360	-0	60200	0	01002	ORS	E1000	
00361	0	56000	0	01002	LDQ	E1000	
00362	-0	50000	0	00355	IN320	CAL	IN313
00363	0	07400	1	00445	TSX	IN403,1	
00364	0	50000	0	01000	CLA	DATA5	
00365	0	77100	0	00022	ARS	18	
00366	0	10000	0	00377	TZE	IN335	
00367	0	56000	0	00710	LDQ	DATA6	
00370	0	07400	1	00464	TSX	IN422,1	
00371	0	50000	0	01000	CLA	DATA5	
00372	0	12000	0	00375	TPL	IN333	
00373	-0	50000	0	00716	CAL	DT714	
00374	0	02000	0	00376	TRA	IN334	
00375	-0	50000	0	00717	IN333	CAL	DATA8
00376	0	07400	1	00460	IN334	TSX	IN416,1
00377	0	50000	0	01000	IN335	CLA	DATA5
00400	-0	32000	0	00726	ANA	DATA1	
00401	-0	10000	0	00406	TNZ	IN344	
00402	0	50000	0	01001	CLA	E0777	
00403	0	10000	0	00425	TZE	IN363	
00404	0	56000	0	00713	LDQ	DT711	
00405	0	02000	0	00414	TRA	IN352	
00406	0	56000	0	00712	IN344	LDQ	DT710
00407	0	34000	0	00724	CAS	DT722	
00410	0	02000	0	00413	TRA	IN351	
00411	0	02000	0	00413	TRA	IN351	
00412	0	56000	0	00710	LDQ	DATA6	
00413	0	07400	1	00464	IN351	TSX	IN422,1
00414	0	50000	0	00714	IN352	CLA	DT712
00415	0	07400	1	00460	TSX	IN416,1	
00416	0	50000	0	01001	CLA	E0777	
00417	0	10000	0	00425	TZE	IN363	
00420	0	77100	0	00022	ARS	18	
00421	0	56000	0	00710	LDQ	DATA6	
00422	0	07400	1	00464	TSX	IN422,1	
00423	0	50000	0	00714	CLA	DT712	
00424	0	07400	1	00460	TSX	IN416,1	
00425	-0	75400	0	00006	IN363	PXD	6
00426	0	56000	0	00710	LDQ	DATA6	
00427	-0	76300	2	00044	LGL	36,2	
00430	-0	60200	0	00430	IN366	ORS	*
00431	0	76600	0	00202	IN367	WTD	2
00432	0	53400	1	00425	LXA	IN363,1	
00433	0	70000	1	01013	IN371	CPY	E1011,1
00434	2	00001	1	00433	TIX	IN371,1,1	
00435	0	76600	0	00333	IOD		
00436	-0	53400	1	00442	LXD	ADD08,1	
00437	1	00004	1	00440	TXI	ADD06,1,4	
00440	-3	00440	1	00236	ADD06	TXL	IN207,1,*
00441	-0	53400	2	00221	LXD	ADD02,2	
00442	1	00442	0	00223	ADD08	TXI	ADD03,0,*
00443	-3	00036	2	00454	IN401	TXL	IN412,2,30

SELECT RELATIVE ADDRESS.

RA EQUAL ZERO, GO TO IN335  
 RA NOT EQUAL ZERO, LOAD MQ WITH BLANKS AND  
 GO TO IN422  
 SET ACC. EQUAL RA.  
 IF RA POSITIVE, GO TO IN333.  
 IF RA NEGATIVE, SELECT OCTAL 40 (MINUS)  
 AND GO TO IN334.  
 SELECT OCTAL 20 (PLUS)

SET ACC. EQUAL RA. ANA OCTAL 77777

IF NOT ZERO, GO TO IN344.  
 ZERO. TEST IF E0777 EQUAL ZERO.  
 IF ZERO, GO TO IN363.  
 NOT ZERO, LOAD MQ WITH 0 IN 1ST CHARAC, REST  
 AND GO TO IN 352

IF SHIFT LESS THAN OR EQUAL 30, GO TO SELECT

F6R01060  
 F6R01070  
 F6R01080  
 F6R01090  
 F6R01100  
 F6R01110  
 F6R01120  
 F6R01130  
 F6R01140  
 F6R01150  
 F6R01160  
 F6R01170  
 F6R01180  
 F6R01190  
 F6R01200  
 F6R01210  
 F6R01220  
 F6R01230  
 F6R01240  
 F6R01250  
 F6R01260  
 F6R01270  
 F6R01280  
 F6R01290  
 F6R01300  
 F6R01310  
 F6R01320  
 F6R01330  
 F6R01340  
 F6R01350  
 F6R01360  
 F6R01370  
 F6R01380  
 F6R01390  
 F6R01400  
 F6R01410  
 F6R01420  
 F6R01430  
 F6R01440  
 F6R01450  
 F6R01460  
 F6R01470  
 F6R01480  
 F6R01490  
 F6R01500  
 F6R01510  
 F6R01520  
 F6R01530  
 F6R01540  
 F6R01550  
 F6R01560  
 F6R01570  
 F6R01580  
 F6R01590



	00444	-0	50000	0	00461		CAL	IN417
	00445	0	40000	0	00725	IN403	ADD	DT723
	00446	0	62100	0	00461		STA	IN417
	00447	0	62100	0	00430		STA	IN366
	00450	0	62100	0	00452		STA	IN410
T	00451	-0	75400	0	00000		PXD	
	00452	0	60200	0	00452	IN410	SLW	*
	00453	-0	73400	2	00000		PDX	0,2
	00454	-0	76300	0	00006	IN412	LGL	6
	00455	0	34000	0	00715		CAS	DT713
	00456	0	02000	0	00460		TRA	IN416
	00457	0	02000	1	00001		TRA	1,1
	00460	0	76700	2	00036	IN416	ALS	30,2
	00461	-0	60200	0	00461	IN417	ORS	*
T	00462	-0	75400	0	00000		PXD	
	00463	1	00006	2	00443		TXI	IN401,2,6
	00464	-0	60000	0	01004	IN422	STQ	E1002
	00465	-0	63400	1	00774		SXD	DT772,1
	00466	0	76500	0	00043	IN424	LRS	35
	00467	-0	73400	1	00000		PDX	0,1
	00470	0	60200	0	01003		SLW	E1001
	00471	0	22100	0	00723	IN427	DVP	DT721
	00472	0	76700	1	00000		ALS	0,1
	00473	-0	60200	0	01003		ORS	E1001
	00474	-0	60000	0	01002		STQ	E1000
	00475	0	50000	0	01002		CLA	E1000
	00476	0	10000	0	00501		TZE	IN437
	00477	0	76000	0	00000		CLM	0
	00500	1	77772	1	00471		TXI	IN427,1,-6
	00501	-0	50000	0	01003	IN437	CAL	E1001
	00502	0	56000	0	01004		LDQ	E1002
	00503	-0	76300	0	00001		LGL	1
	00504	0	56000	0	01004	IN442	LDQ	E1002
	00505	0	76500	1	00006		LRS	6,1
	00506	-0	53400	1	00774		LXD	DT772,1
	00507	0	02000	1	00001		TRA	1,1
	00510	0	77100	0	00022	IN446	ARS	18
	00511	0	10000	0	00362		TZE	IN320
	00512	0	07400	1	00464		TSX	IN422,1
	00513	0	50000	0	01000		CLA	DATA5
	00514	0	12000	0	00517		TPL	IN455
	00515	-0	50000	0	00716		CAL	DT714
	00516	0	02000	0	00521		TRA	IN457
T	00517	-0	75400	0	00000	IN455	PXD	
	00520	-0	76300	0	00006		LGL	6
	00521	-0	60200	0	01006	IN457	ORS	E1004
	00522	-0	50000	0	00355		CAL	IN313
	00523	0	07400	1	00445		TSX	IN403,1
	00524	0	02000	0	00377		TRA	IN335
	00525	0	56000	0	00777	ADD15	LDQ	DATA4
	00526	-0	50000	0	00717		CAL	DATA8
	00527	0	16200	0	00532		TQP	IN470
	00530	0	40000	0	00717		ADD	DATA8
	00531	0	76500	0	00000		LRS	0

SHIFT GREATER THAN 30. PREPARE TO MODIFY ADDRESS  
 COMPUTE ADDRESS FOR STORING WORD.

CLEAR ACC.  
 STORE ZERO IN WORD.  
 SET XR2 EQUAL TO ZERO.  
 SELECT CHARACTER  
 IS CHARACTER BLANK.  
 NO.  
 YES, RETURN TO PROGRAM  
 NO, SHIFT CHARACTER

ADJUST XR2 SHIFT AND GO TO IN401.

F6R01600  
 F6R01610  
 F6R01620  
 F6R01630  
 F6R01640  
 F6R01650  
 F6R01660  
 F6R01670  
 F6R01680  
 F6R01690  
 F6R01700  
 F6R01710  
 F6R01720  
 F6R01730  
 F6R01740  
 F6R01750  
 F6R01760  
 F6R01770  
 F6R01780  
 F6R01790  
 F6R01800  
 F6R01810  
 F6R01820  
 F6R01830  
 F6R01840  
 F6R01850  
 F6R01860  
 F6R01870  
 F6R01880  
 F6R01890  
 F6R01900  
 F6R01910  
 F6R01920  
 F6R01930  
 F6R01940  
 F6R01950  
 F6R01960  
 F6R01970  
 F6R01980  
 F6R01990  
 F6R02000  
 F6R02010  
 F6R02020  
 F6R02030  
 F6R02040  
 F6R02050  
 F6R02060  
 F6R02070  
 F6R02080  
 F6R02090  
 F6R02100  
 F6R02110  
 F6R02120  
 F6R02130

00532	-0	60200	0	01006	IN470	ORS	E1004
00533	0	76700	0	00003		ALS	3
00534	-0	76300	0	00003		LGL	3
00535	0	76700	0	00003		ALS	3
00536	-0	76300	0	00003		LGL	3
00537	0	76700	0	00003		ALS	3
00540	-0	76300	0	00003		LGL	3
00541	0	76700	0	00003		ALS	3
00542	-0	76300	0	00003		LGL	3
00543	0	76700	0	00003		ALS	3
00544	-0	76300	0	00003		LGL	3
00545	0	76700	0	00003		ALS	3
00546	-0	76300	0	00003		LGL	3
00547	0	60200	0	01007		SLW	E1005
00550	0	76700	0	00003		ALS	3
00551	-0	76300	0	00003		LGL	3
00552	0	76700	0	00003		ALS	3
00553	-0	76300	0	00003		LGL	3
00554	0	76700	0	00003		ALS	3
00555	-0	76300	0	00003		LGL	3
00556	0	76700	0	00003		ALS	3
00557	-0	76300	0	00003		LGL	3
00560	0	76700	0	00003		ALS	3
00561	-0	76300	0	00003		LGL	3
00562	0	76700	0	00003		ALS	3
00563	-0	76300	0	00003		LGL	3
00564	0	60200	0	01010		SLW	E1006
00565	0	02000	0	00431		TRA	IN367
00566	0	50000	0	00777	ADD14	CLA	DATA4
00567	0	40200	0	00721		SUB	DT717
00570	-0	10000	0	00574		TNZ	IN532
00571	-0	50000	0	00706		CAL	DAT10
00572	0	60200	0	01006		SLW	E1004
00573	0	02000	0	00525		TRA	ADD15
00574	-0	50000	0	00725	IN532	CAL	DT723
00575	-0	60200	0	01006		ORS	E1004
00576	-0	50000	0	00777		CAL	DATA4
00577	0	60200	0	01007		SLW	E1005
00600	-0	50000	0	00710		CAL	DATA6
00601	0	60200	0	01010		SLW	E1006
00602	0	02000	0	00431		TRA	IN367
00603	-0	63400	1	00705	SUB1	SXD	DT703,1
00604	0	73400	4	00000		PAX	0,4
00605	0	40200	0	00722		SUB	DATA7
00606	-0	10000	0	00621		TNZ	IN550
00607	-0	50000	0	00720		CAL	DT716
00610	0	56000	0	00710		LDQ	DATA6
00611	0	02000	0	00355		TRA	IN313
00612	0	02000	0	01164	LIB2	TRA	RPCH1
00613	0	02000	0	00306		TRA	ADD12
00614	000000000053				LIB3	BCD	1000005
00615	536060606060				LIB4	BCD	15
00616	000000000074				LIB5	BCD	1000000
00617	-0	50000	0	00775	LIB6	CAL	DATA2

SAVE XR1 FOR RETURN  
STORE CHARACTER IN XR4  
IS CHARACTER \*.  
NO, GO TO IN 550.  
YES, SELECT \*.  
LOAD MQ WITH BLANKS.  
GO TO IN 313.

F6R02140  
F6R02150  
F6R02160  
F6R02170  
F6R02180  
F6R02190  
F6R02200  
F6R02210  
F6R02220  
F6R02230  
F6R02240  
F6R02250  
F6R02260  
F6R02270  
F6R02280  
F6R02290  
F6R02300  
F6R02310  
F6R02320  
F6R02330  
F6R02340  
F6R02350  
F6R02360  
F6R02370  
F6R02380  
F6R02390  
F6R02400  
F6R02410  
F6R02420  
F6R02430  
F6R02440  
F6R02450  
F6R02460  
F6R02470  
F6R02480  
F6R02490  
F6R02500  
F6R02510  
F6R02520  
F6R02530  
F6R02540  
F6R02550  
F6R02560  
F6R02570  
F6R02580  
F6R02590  
F6R02600  
F6R02610  
F6R02620  
F6R02630  
F6R02640  
F6R02650  
F6R02660  
F6R02670

	00620	0	02000	0	00306		TRA	ADD12
	00621	-0	50000	4	00772	IN550	CAL	DT770,4
	00622	0	76700	0	00006		ALS	6
	00623	-0	50100	0	00773		ORA	DT771
	00624	0	76700	0	00030		ALS	24
	00625	0	60200	0	01002		SLW	E1000
	00626	0	53400	3	00636		LXA	IN565,3
	00627	-0	77300	0	00014		RQL	12
T	00630	-0	75400	0	00000		PXD	0
	00631	-0	76300	0	00003		LGL	3
	00632	-0	10000	0	00636		TNZ	IN565
	00633	-2	00001	1	00646	IN562	TXN	IN575,1,1
	00634	-0	76300	0	00005		LGL	5
	00635	0	10000	0	00633		TZE	IN562
	00636	0	73400	4	00004	IN565	PAX	4,4
	00637	-0	50000	4	00772		CAL	DT770,4
	00640	-2	00001	1	00647		TXN	IN576,1,1
	00641	0	76700	2	00026		ALS	22,2
	00642	-0	60200	0	01002		ORS	E1000
T	00643	-0	75400	0	00000		PXD	
	00644	-0	76300	0	00005		LGL	5
	00645	1	00006	2	00636		TXI	IN565,2,6
	00646	-0	50000	0	00715	IN575	CAL	DT713
	00647	0	56000	0	00710	IN576	LDQ	DATA6
	00650	-0	76300	2	00026		LGL	22,2
	00651	-0	50100	0	01002		ORA	E1000
	00652	-0	53400	1	00705		LXD	DT703,1
	00653	0	02000	1	00001		TRA	1,1
	00654	0	60100	0	01002	SUB2	STO	E1000
	00655	-0	76300	0	00010		LGL	8
T	00656	-0	75400	0	00000		PXD	0
	00657	0	76500	0	00035		LRS	29
	00660	0	22100	0	00723		DVP	DT721
	00661	-0	10000	0	00663		TNZ	IN612
	00662	-0	50000	0	00715		CAL	DT713
	00663	0	60200	0	01004	IN612	SLW	E1002
	00664	-0	76300	0	00044		LGL	36
	00665	-0	63400	1	00774		SXD	DT772,1
	00666	0	73400	1	00000		PAX	0,1
	00667	-0	50000	1	00760		CAL	IN756,1
	00670	0	76700	0	00006		ALS	6
	00671	-0	50100	0	01004		ORA	E1002
	00672	0	56000	0	00710		LDQ	DATA6
	00673	-0	76300	0	00030		LGL	24
	00674	0	60200	0	01004		SLW	E1002
	00675	0	50000	0	01002		CLA	E1000
	00676	0	02000	0	00466		TRA	IN424
	00677	0	00000	0	00000	ADD07	HTR	0
	00700	0	77000	0	00202	ADD01	WEF	2
	00701	0	77200	0	00204		REW	4
	00702	0	77200	0	00202		REW	2
	00703	0	76200	0	00221		RTB	1
	00704	0	02000	0	00004		TRA	4
	00705	0	00000	0	00000	DT703	HTR	0

SELECT APPROPRIATE NUMERIC OR ALPHABETIC CHARACTER.  
FOLLOWED BY LEFT PARENTHESIS  
AND SHIFT INTO PROPER POSITION.

TAG BITS INTO ACC. ADDRESS  
TAG BITS EQUAL ZERO. NO, GO TO IN565  
YES. IF FINISHED WITH WORD, GO TO IN 575  
NOT FINISHED WITH WORD. TEST ADDRESS BITS  
ADDRESS BITS ZERO.  
ADDRESS BITS NOT ZERO.  
SELECT CHARACTER.

SHIFT INTO PROPER POSITION.

ADJUST SHIFT.

IF SUBSIDIARY NO. IS ZERO, SELECT A BLANK.

SELECT ALPHABETIC CHARACTER.

F6R02680  
F6R02690  
F6R02700  
F6R02710  
F6R02720  
F6R02730  
F6R02740  
F6R02750  
F6R02760  
F6R02770  
F6R02780  
F6R02790  
F6R02800  
F6R02810  
F6R02820  
F6R02830  
F6R02840  
F6R02850  
F6R02860  
F6R02870  
F6R02880  
F6R02890  
F6R02900  
F6R02910  
F6R02920  
F6R02930  
F6R02940  
F6R02950  
F6R02960  
F6R02970  
F6R02980  
F6R02990  
F6R03000  
F6R03010  
F6R03020  
F6R03030  
F6R03040  
F6R03050  
F6R03060  
F6R03070  
F6R03080  
F6R03090  
F6R03100  
F6R03110  
F6R03120  
F6R03130  
F6R03140  
F6R03150  
F6R03160  
F6R03170  
F6R03180  
F6R03190  
F6R03200  
F6R03210

00706 -204623636000  
00707 -202223246000  
00710 -206060606060  
00711 +336060606060  
00712 -236060606060  
00713 +006060606060  
00714 +000000000073  
00715 +000000000060  
00716 +000000000040  
00717 +000000000020  
00720 +000000000054  
00721 -377777777777  
00722 +000000000017  
00723 +000000000012  
00724 +000000000005  
00725 +000000000001  
00726 +000000077777  
00727 +000000000071  
00730 +000000000070  
00731 +000000000067  
00732 +000000000066  
00733 +000000000065  
00734 +000000000064  
00735 +000000000063  
00736 +000000000062  
00737 +000000000051  
00740 +000000000050  
00741 +000000000047  
00742 +000000000046  
00743 +000000000045  
00744 +000000000044  
00745 +000000000043  
00746 +000000000042  
00747 +000000000041  
00750 +000000000031  
00751 +000000000030  
00752 +000000000027  
00753 +000000000026  
00754 +000000000025  
00755 +000000000024  
00756 +000000000023  
00757 +000000000022  
00760 +000000000021  
00761 +000000000011  
00762 +000000000010  
00763 +000000000007  
00764 +000000000006  
00765 +000000000005  
00766 +000000000004  
00767 +000000000003  
00770 +000000000002  
00771 +000000000001  
00772 +000000000000  
00773 +000000000034

DAT10 OCT 604623636000  
DATA9 OCT 602223246000  
DATA6 OCT 606060606060  
DT707 OCT 336060606060  
DT710 OCT 636060606060  
DT711 OCT 006060606060  
DT712 OCT 73  
DT713 OCT 60  
DT714 OCT 40  
DATA8 OCT 20  
DT716 OCT 54  
DT717 OCT 777777777777  
DATA7 OCT 17  
DT721 OCT 12  
DT722 OCT 5  
DT723 OCT 1  
DATA1 OCT 77777  
DT725 OCT 71  
OCT 70  
OCT 67  
OCT 66  
OCT 65  
OCT 64  
OCT 63  
OCT 62  
DT735 OCT 51  
OCT 50  
OCT 47  
OCT 46  
OCT 45  
OCT 44  
OCT 43  
OCT 42  
OCT 41  
OCT 31  
OCT 30  
OCT 27  
OCT 26  
OCT 25  
OCT 24  
OCT 23  
OCT 22  
IN756 OCT 21  
OCT 11  
OCT 10  
OCT 7  
OCT 6  
OCT 5  
OCT 4  
OCT 3  
OCT 2  
OCT 1  
DT770 OCT 0  
DT771 OCT 34

F6R03220  
F6R03230  
F6R03240  
F6R03250  
F6R03260  
F6R03270  
F6R03280  
F6R03290  
F6R03300  
F6R03310  
F6R03320  
F6R03330  
F6R03340  
F6R03350  
F6R03360  
F6R03370  
F6R03380  
F6R03390  
F6R03400  
F6R03410  
F6R03420  
F6R03430  
F6R03440  
F6R03450  
F6R03460  
F6R03470  
F6R03480  
F6R03490  
F6R03500  
F6R03510  
F6R03520  
F6R03530  
F6R03540  
F6R03550  
F6R03560  
F6R03570  
F6R03580  
F6R03590  
F6R03600  
F6R03610  
F6R03620  
F6R03630  
F6R03640  
F6R03650  
F6R03660  
F6R03670  
F6R03680  
F6R03690  
F6R03700  
F6R03710  
F6R03720  
F6R03730  
F6R03740  
F6R03750

00774	0	00000	0	00000	DT772	HTR	0
00775	0	00000	0	00000	DATA2	HTR	0
00776	0	00000	0	00000	DATA3	HTR	0
00777	0	00000	0	00000	DATA4	HTR	0
01000	0	00000	0	00000	DATA5	HTR	0
01001	0	00000	0	00000	E0777	HTR	0
01002	0	00000	0	00000	E1000	HTR	0
01003	0	00000	0	00000	E1001	HTR	0
01004	0	00000	0	00000	E1002	HTR	0
01005	0	00000	0	00000	E1003	HTR	0
01006	0	00000	0	00000	E1004	HTR	0
01007	0	00000	0	00000	E1005	HTR	0
01010	0	00000	0	00000	E1006	HTR	0
01011	0	00000	0	00000	E1007	HTR	0
01012	0	00000	0	00000	E1010	HTR	0
01013	0	00000	0	00000	E1011	HTR	0
01014	0	00000	0	00000		HTR	0
01015	0	00000	0	00000		HTR	0
01016	0	00000	0	00000		HTR	0
01017	0	00000	0	00000	E1015	HTR	0
				01164	REC	BES	100
01164	0	76300	0	00006	RPCH1	LLS	6
01165	0	40200	0	00614		SUB	LIB3
01166	0	10000	0	01171		TZE	LIB2A
01167	-0	50000	0	00615		CAL	LIB4
01170	0	02000	0	00306		TRA	ADD12
01171	-0	50000	0	01173	LIB2A	CAL	DOL2
01172	0	02000	0	00306		TRA	ADD12
01173	535360606060				DOL2	BCD	1\$\$
				01160	RECO1	SYN	REC-4
				01161	RECO2	SYN	REC-3
				01162	RECO3	SYN	REC-2
				01163	RECOR	SYN	REC-1
				00000		END	
					QSTART	00210,00210	

SINGLE DOLLAR SIGN

DOUBLE DOLLAR SIGN.

F6R03760  
 F6R03770  
 F6R03780  
 F6R03790  
 F6R03800  
 F6R03810  
 F6R03820  
 F6R03830  
 F6R03840  
 F6R03850  
 F6R03860  
 F6R03870  
 F6R03880  
 F6R03890  
 F6R03900  
 F6R03910  
 F6R03920  
 F6R03930  
 F6R03940  
 F6R03950  
 F6R03960  
 F6R03961  
 F6R03962  
 F6R03963  
 F6R03964  
 F6R03965  
 F6R03966  
 F6R03967  
 F6R03968  
 F6R03970  
 F6R03980  
 F6R03990  
 F6R04000  
 F6R04010

A  
 A

1  
1

AST

\*\*\*\*\* FORTRAN II SECTION SIX \*\*\*\*\*F6S00010  
FORTRAN 2 RECORD 005 - ON-LINE PRINT. F6S00011MODIFICATIONS TO TPH1 TO PRINT WITH  
SENSE SWITCH CHANGES

00210	0	77200	0	00202	ORG 136		F6S00012
00211	-0	53400	1	00225	REW 2		F6S00020
00212	0	50000	0	00162	LXD FILES,1		F6S00030
00213	0	34000	0	00200	CLA ONE		F6S00040
00214	0	02000	0	00217	CAS SW2	TEST SENSE SWITCH TWO.	F6S00050
00215	0	02000	0	00220	TRA LIB1	UP	F6S00060
00216	0	76000	0	00162	TRA ASKER	DOWN	F6S00070
00217	-2	00001	1	00234	SWT 2		F6S00080
00220	0	50000	0	00162	LIB1 TNX CARDS,1,1	UP, ANY FILES TO DO. GO RETURN TO LOADER IF NOT	F6S00090
00221	0	34000	0	00201	ASKER CLA ONE	SWITCH 2 DOWN (OR UP BUT FILES TO DO)	F6S00100
00222	0	02000	0	00225	CAS SW3	TEST SENSE SWITCH THREE.	F6S00110
00223	0	02000	0	00226	TRA FILES	UP, GO TO RETURN TO LOADER	F6S00120
00224	0	76000	0	00163	TRA LIB2	DOWN.	F6S00130
00225	1	00003	0	00234	SWT 3		F6S00140
00226	-0	63400	1	00231	FILES TXI CARDS,,3	UP, GO RETURN TO LOADER.	F6S00150
00227	0	76600	0	00361	LIB2 SXD COUNT,1	SWITCH THREE DOWN.	F6S00160
00230	0	76000	0	00361	WPR	TO PRINT FILE OF TAPE TWO.	F6S00170
00231	1	00000	0	00237	SPR 1		F6S00180
00232	-0	53400	1	00231	COUNT TXI PRINT		F6S00190
00233	2	00001	1	00220	PARTS LXD COUNT,1		F6S00200
00234	0	76200	0	00221	TIX ASKER,1,1		F6S00210
00235	0	02000	0	00004	CARDS RTB 1	RETURN TO LOADER	F6S00220
00236	0	00000	0	00005	TRA 4		F6S00230
00237	-0	76000	0	00012	ME8 HTR 5		F6S00240
00240	0	76100	0	00000	PRINT RTT		F6S00250
00241	-0	53400	4	00236	NOP		F6S00260
00242	-0	53400	2	00246	ME9 LXD ME8,4		F6S00270
00243	0	76000	0	00141	I113 LXD I117,2	SET RECORD LENGTH EQUAL 20	F6S00280
00244	0	76200	0	00202	SLN 1	TURN ON SENSE LIGHT 1	F6S00290
00245	0	70000	2	00551	RTD 2	SELECT TAPE TWO IN BCD MODE	F6S00300
00246	-3	00024	0	00261	I116 CPY D65,2	AND COPY RECORD.	F6S00310
00247	0	02000	0	00232	I117 TXL I132,,20		F6S00320
00250	1	00001	2	00251	TRA PARTS	END OF FILE.	F6S00330
00251	-0	75400	2	00000	I121 TXI I122,2,1		F6S00340
00252	-0	76000	0	00012	I122 PXD 0,2		F6S00350
00253	-3	00000	0	00263	RTT	TEST TAPE CHECK.	F6S00360
00254	0	40000	0	00260	TXL I134,0,0	ERROR.	F6S00370
00255	0	62200	0	00257	I125 ADD I131	PRINT THIS RECORD.	F6S00380
00256	0	07400	4	00267	STD I130		F6S00390
00257	0	00000	0	00525	TSX I143,4		F6S00400
00260	-3	00551	0	00241	I130 HTR D41+1		F6S00410
00261	2	00001	2	00245	I131 TXL ME9,0,D65		F6S00420
00262	-3	00000	0	00251	I132 TIX I116,2,1	NEXT WORD BUT NO	F6S00430
00263	2	00001	4	00265	TXL I122,0,0	MORE THAN 20.	F6S00440
00264	0	07400	4	00004	I134 TIX I136,4,1	TEST FOR ANOTHER TRY.	F6S00450
00265	0	76400	0	00202	TSX 4,4		F6S00460
00266	-3	00000	0	00242	I136 BST 2	TRY AGAIN.	F6S00470
					TXL I113,0,0		F6S00480
							F6S00490
							F6S00500
							F6S00510

	00267	0	50000	4	00001	I143	CLA 1,4
	00270	0	62200	0	00432		STD I302
	00271	0	77100	0	00022		ARS 18
	00272	0	40000	0	00432		ADD I302
	00273	0	62100	0	00305		STA I161
	00274	0	62100	0	00341		STA I211
	00275	0	40200	4	00001		SUB 1,4
	00276	-0	63400	4	00432		SXD I302,4
	00277	0	73400	4	00000		PAX 0,4
	00300	-0	63400	4	00301		SXD I155,4
	00301	3	00301	0	00000	I155	TXH 0,0,*
	00302	0	76600	0	00361		WPR
	00303	0	50000	0	00431		CLA I301
	00304	-0	53400	4	00354		LXD I224,4
	00305	0	34000	4	00305	I161	CAS *,4
	00306	1	77777	4	00311		TXI I165,4,-1
	00307	1	00001	4	00305	I163	TXI I161,4,1
	00310	1	77777	4	00311		TXI I165,4,-1
	00311	-0	63400	4	00360	I165	SXD I230,4
	00312	-0	63400	4	00372		SXD I242,4
	00313	-0	63400	4	00316		SXD I172,4
	00314	-0	63400	4	00421		SXD I271,4
	00315	-0	53400	4	00301		LXD I155,4
D	00316	-2	00000	4	00322	I172	TNX I176,4
	00317	-3	00014	4	00321		TXL I175,4,12
	00320	0	76000	0	00370		SPR 8
	00321	-0	53400	4	00301	I175	LXD I155,4
	00322	0	53400	2	00333	I176	LXA I203,2
	00323	-0	53400	1	00375		LXD I245,1
	00324	0	50000	0	00162		CLA ONE
	00325	0	34000	0	00202		CAS SW4
	00326	0	02000	0	00331		TRA I201
	00327	0	02000	0	00332		TRA LIB5
	00330	0	76000	0	00164		SWT 4
	00331	-3	00331	0	00333	I201	TXL I203,0,*
	00332	0	76100	0	00000	LIB5	NOP
T	00333	-0	75400	0	00000	I203	PXD
	00334	0	60200	1	00524	I204	SLW D41,1
	00335	0	60200	1	00504		SLW D21,1
	00336	2	00001	1	00334		TIX I204,1,1
	00337	-0	50000	0	00433	I207	CAL I303
	00340	0	60200	0	00000	I210	SLW 0
	00341	0	56000	4	00341	I211	LDQ *,4
	00342	-0	63400	4	00331		SXD I201,4
	00343	0	53400	4	00345		LXA I215,4
T	00344	-0	75400	0	00000	I214	PXD
	00345	-0	76300	0	00006	I215	LGL 6
	00346	0	73400	1	00000		PAX 0,1
	00347	-0	50000	0	00000		CAL 0
	00350	0	77100	4	00006		ARS 6,4
	00351	2	00020	1	00375		TIX I245,1,16
	00352	3	00017	1	00400		TXH I250,1,15
	00353	-0	60200	3	00521		ORS D36,3
	00354	2	00001	4	00344	I224	TIX I214,4,1

SUBSTITUTE CODING.

SELECT PRINTER  
FIND LAST NON-BLANK GROUP.

STORE END TEST.

FIRST CYCLE.  
INITIALIZE GROUP COUNT.  
INITIALIZE LEFT SETUP.

CLEAR CARD IMAGE.

INITIALIZE COLUMN INDICATOR.

OBTAIN GROUP.  
STORE GROUP COUNT.  
SET CHARACTER COUNT.

POSITION COLUMN INDICATOR.

TEST FOR DIGIT.  
TEST FOR Y-Z ONE  
STORE DIGIT.  
COUNT CHARACTERS.

F6S00520  
F6S00530  
F6S00540  
F6S00550  
F6S00560  
F6S00570  
F6S00580  
F6S00590  
F6S00600  
F6S00610  
F6S00620  
F6S00630  
F6S00640  
F6S00650  
F6S00660  
F6S00670  
F6S00680  
F6S00690  
F6S00700  
F6S00710  
F6S00720  
F6S00730  
F6S00740  
F6S00750  
F6S00760  
F6S00770  
F6S00780  
F6S00790  
F6S00800  
F6S00810  
F6S00820  
F6S00830  
F6S00840  
F6S00850  
F6S00860  
F6S00870  
F6S00880  
F6S00890  
F6S00900  
F6S00910  
F6S00920  
F6S00930  
F6S00940  
F6S00950  
F6S00960  
F6S00970  
F6S00980  
F6S00990  
F6S01000  
F6S01010  
F6S01020  
F6S01030  
F6S01040  
F6S01050

	00355	0	77100	0	00001	I225	ARS 1	SHIFT AND TEST COLUMN.	F6S01060
	00356	-0	53400	4	00331		LXD I201,4	RESTORE GROUP COUNT.	F6S01070
	00357	1	77777	4	00360		TXI I230,4,-1	COUNT GROUPS.	F6S01080
D	00360	-3	00000	4	00362	I230	TXL I232,4	TEST FOR LAST NON-BLANK GROUP.	F6S01090
	00361	-0	10000	0	00340		TNZ I210	TEST FOR END OF ROW.	F6S01100
	00362	-0	50000	2	00506	I232	CAL D23,2	FORM TRUE 8,4	F6S01110
	00363	-0	60200	2	00511		ORS D26,2	AND 3 ROWS AND	F6S01120
	00364	-0	60200	2	00516		ORS D33,2	MOVE 8,4 AND 8,3	F6S01130
	00365	0	60200	2	00507		SLW D24,2	ROWS.	F6S01140
	00366	-0	50000	2	00505		CAL D22,2		F6S01150
	00367	-0	60200	2	00511		ORS D26,2		F6S01160
	00370	-0	60200	2	00515		ORS D32,2		F6S01170
	00371	0	60200	2	00506		SLW D23,2		F6S01180
D	00372	-3	00000	4	00415	I242	TXL I265,4	TEST FOR END.	F6S01190
	00373	3	00017	2	00415		TXH I265,2,15	TEST FOR RIGHT HALF.	F6S01200
	00374	1	00020	2	00337		TXI I207,2,16	INITIALIZE RIGHT HALF.	F6S01210
	00375	2	00020	1	00403	I245	TIX I253,1,16	TEST FOR 16/CH/32	F6S01220
	00376	3	00017	1	00406		TXH I256,1,15	TEST FOR X-ZONE	F6S01230
	00377	-0	60200	3	00521		ORS D36,3	STORE DIGIT.	F6S01240
	00400	-0	60200	2	00523	I250	ORS D40,2	STORE Y-ZONE.	F6S01250
	00401	2	00001	4	00344		TIX I214,4,1	COUNT CHARACTERS.	F6S01260
TD	00402	-3	00000	0	00355	I252	TXL I225	OBTAIN NEXT GROUP.	F6S01270
	00403	2	00020	1	00411	I253	TIX I261,1,16	TEST FOR 32/CH/48.	F6S01280
	00404	3	00017	1	00354		TXH I224,1,15	TEST FOR BLANK.	F6S01290
	00405	-0	60200	3	00521		ORS D36,3	STORE DIGIT.	F6S01300
	00406	-0	60200	2	00522	I256	ORS D37,2	STORE X-ZONE.	F6S01310
	00407	2	00001	4	00344		TIX I214,4,1	COUNT CHARACTERS.	F6S01320
TD	00410	-3	00000	0	00355	I260	TXL I225	OBTAIN NEXT GROUP.	F6S01330
	00411	-0	60200	2	00521	I261	ORS D36,2	STORE 0-ZONE.	F6S01340
	00412	-0	60200	3	00521		ORS D36,3	STORE DIGIT.	F6S01350
	00413	2	00001	4	00344		TIX I214,4,1	COUNT CHARACTERS.	F6S01360
TD	00414	-3	00000	0	00355		TXL I225		F6S01370
	00415	-0	53400	1	00430	I265	LXD I300,1	COPY LOOP.	F6S01380
	00416	0	70000	1	00524	I266	CPY D41,1	CARD IMAGE COPIES.	F6S01390
	00417	0	70000	1	00504		CPY D21,1		F6S01400
	00420	2	00001	1	00416		TIX I266,1,1	COUNT COPIES.	F6S01410
D	00421	3	00000	4	00426	I271	TXH I276,4	TEST FOR SECOND CYCLE.	F6S01420
	00422	-0	53400	1	00402		LXD I252,1	NO, RELOAD INDEX REGISTERS	F6S01430
	00423	-0	53400	2	00410		LXD I260,2	AND RETURN.	F6S01440
	00424	-0	53400	4	00432		LXD I302,4		F6S01450
	00425	0	02000	4	00002		TRA 2,4		F6S01460
	00426	0	76600	0	00361	I276	WPR	SELECT PRINTER AGAIN.	F6S01470
	00427	0	76000	0	00371		SPR 9	SECOND CYCLE.	F6S01480
	00430	-3	00014	0	00322	I300	TXL I176,0,12	CONVERT REST OF LINE	F6S01490
	00431	606060606060				I301	BCD 1		F6S01500
	00432	0	00000	0	00001	I302	HTR 1		F6S01510
	00433	-0	00000	0	00000	I303	MZE		F6S01520
					00504		BES 40		F6S01530
	00504	0	00000	0	00000	D21	HTR 0		F6S01540
	00505	0	00000	0	00000	D22	HTR 0		F6S01550
	00506	0	00000	0	00000	D23	HTR 0		F6S01560
	00507	0	00000	0	00000	D24	HTR 0		F6S01570
	00510	0	00000	0	00000	D25	HTR 0		F6S01580
	00511	0	00000	0	00000	D26	HTR 0		F6S01590



00512	0	00000	0	00000	D27	HTR	0
00513	0	00000	0	00000	D30	HTR	0
00514	0	00000	0	00000	D31	HTR	0
00515	0	00000	0	00000	D32	HTR	0
00516	0	00000	0	00000	D33	HTR	0
00517	0	00000	0	00000	D34	HTR	0
00520	0	00000	0	00000	D35	HTR	0
00521	0	00000	0	00000	D36	HTR	0
00522	0	00000	0	00000	D37	HTR	0
00523	0	00000	0	00000	D40	HTR	0
00524	0	00000	0	00000	D41	HTR	0
				00551	D65	BES	20
				00000		END	

F6S01600  
 F6S01610  
 F6S01620  
 F6S01630  
 F6S01640  
 F6S01650  
 F6S01660  
 F6S01670  
 F6S01680  
 F6S01690  
 F6S01700  
 F6S01710  
 F6S01720

A

```
REM ***** FORTRAN II SECTION SIX *****F6T00010  
***** FORTRAN II SECTION SIX *****F6T00010  
FORTRAN 2 RECORD 007 - TAPE 3,7 TO 2,6. F6T00011  
F6T00012
```

			00161	ZERO	EQU	113				F6T00020
			00162	ONE	EQU	114				F6T00030
			00177	SW1	EQU	127				F6T00040
			00200	SW2	EQU	128				F6T00050
							DUMP TAPE2 ONTO TAPE6 AND TAPE3 ONTO TAPE7 IF BATCH COMPILING			F6T00060
			00210		ORG	136				F6T00070
00210	0	77200	0	00202	REW	2		REWIND TAPES TWO AND THREE.		F6T00080
00211	0	77200	0	00203	REW	3				F6T00090
00212	-0	53400	1	00161	LXD	ZERO,1				F6T00100
00213	0	76000	0	00166	SWT	6		TEST SENSE SWITCH 6 TO SEE IF BATCH COMPILING. UP. DO NOT DUMP TAPES BUT GO TO FINI.		F6T00110
00214	0	02000	0	00317	TRA	FINI				F6T00120
00215	-0	76000	0	00012	A11	RTT				F6T00130
00216	0	76100	0	00000		NOP				F6T00140
00217	-0	53400	4	00242	A6	LXD SEVEN,4		SET READ ERROR COUNTER.		F6T00150
00220	-0	53400	2	00161	A2	LXD ZERO,2				F6T00160
00221	0	76200	0	00202		RTD 2		READ A RECORD OF TAPE TWO.		F6T00170
00222	0	70000	2	01371	A1	CPY REC-1,2				F6T00180
00223	1	00001	2	00222		TXI A1,2,1				F6T00190
00224	0	02000	0	00247		TRA EOF		EOF		F6T00200
00225	0	77100	0	00377		ARS 255				F6T00210
00226	0	77100	0	00377		ARS 255				F6T00220
00227	-0	76000	0	00012		RTT				F6T00230
00230	0	02000	0	00243		TRA ERROR		ERROR		F6T00240
00231	1	77777	2	00232		TXI NEXT2,2,-1				F6T00250
00232	-0	63400	2	00237	NEXT2	SXD A4,2		SAVE WORD COUNT OF RECORD TO USE WHEN WRITING. ONTO TAPE6		F6T00260
00233	-0	53400	2	00161		LXD ZERO,2				F6T00270
00234	0	76600	0	00206		WTD 6		WRITE RECORD JUST READ ONTO TAPE SIX		F6T00280
00235	0	70000	2	01371	A3	CPY REC-1,2				F6T00290
00236	1	00001	2	00237		TXI A4,2,1				F6T00300
00237	-3	00237	2	00235	A4	TXL A3,2,*				F6T00310
00240	0	76600	0	00333		IOD				F6T00320
00241	0	02000	0	00215		TRA A11		GO READ NEXT RECORD FROM TAPE TWO.		F6T00330
00242	0	00005	0	00000	SEVEN	O,0,5				F6T00340
00243	0	76400	0	00202	ERROR	BST 2		READ ERROR PROCEDURE.		F6T00350
00244	2	00001	4	00220		TIX A2,4,1				F6T00360
00245	0	07400	4	00004		TSX 4,4				F6T00370
00246	0	00000	0	00246	ER	HTR ER				F6T00380
00247	0	77000	0	00206	EOF	WEF 6		AT END OF FILE ON TAPE TWO, WRITE END OF FILE ON TAPE SIX.		F6T00390
00250	1	00001	1	00251		TXI A5,1,1		TWO FILES DONE. YES, GO TEST SWITCH TWO. NO		F6T00400
00251	3	00001	1	00324	A5	TXH TEST2,1,1				F6T00410
00252	0	76200	0	00202		RTD 2				F6T00420
00253	0	02000	0	00217		TRA A6		TEST SENSE SWITCH ONE.		F6T00430
00254	0	50000	0	00162	TAPE7	CLA ONE				F6T00440
00255	0	34000	0	00177		CAS SW1				F6T00450
00256	0	02000	0	00314		TRA EOF3+1				F6T00460
00257	0	02000	0	00262		TRA A7				
00260	0	76000	0	00161		SWT 1				
00261	0	02000	0							

```

00262 -0 53400 4 00242 A7 LXD SEVEN,4
00263 -0 53400 2 00161 A12 LXD ZERO,2
00264 0 76200 0 00223 RTB 3
00265 0 70000 2 01371 A8 CPY REC-1,2
00266 1 00001 2 00265 TXI A8,2,1
00267 0 02000 0 00313 TRA EOF3
00270 0 77100 0 00377 ARS 255
00271 0 77100 0 00377 ARS 255
00272 -0 76000 0 00012 RTT
00273 0 02000 0 00307 TRA ERR3
00274 1 77777 2 00275 TXI NEXT1,2,-1
00275 -0 63400 2 00302 NEXT1 SXD A10,2
00276 -0 53400 2 00161 LXD ZERO,2
00277 0 76600 0 00227 WTB 7
00300 0 70000 2 01371 A9 CPY REC-1,2
00301 1 00001 2 00302 TXI A10,2,1
00302 -3 00302 2 00300 A10 TXL A9,2,*
00303 0 76600 0 00333 IOD
00304 -0 76000 0 00012 RTT
00305 0 76100 0 00000 NOP
00306 0 02000 0 00262 TRA A7
00307 0 76400 0 00203 ERR3 BST 3
00310 2 00001 4 00263 TIX A12,4,1
00311 0 07400 4 00004 TSX 4,4
00312 0 00000 0 00312 ERR4 HTR ERR4
00313 0 77000 0 00207 EOF3 WEF 7
00314 0 76200 0 00221 RTB 1
00315 0 76200 0 00221 RTB 1
00316 0 76200 0 00221 RTB 1
00317 0 77200 0 00202 FINI REW 2
00320 0 77200 0 00203 REW 3
00321 0 77200 0 00204 REW 4
00322 0 76200 0 00221 RTB 1
00323 0 02000 0 00004 TRA 4
00324 0 50000 0 00162 TEST2 CLA ONE
00325 0 34000 0 00200 CAS SW2
00326 0 02000 0 00254 TRA TAPE7
00327 0 02000 0 00332 TRA WT3
00330 0 76000 0 00162 SWT 2
00331 0 02000 0 00254 TRA TAPE7
00332 -0 53400 1 00251 WT3 LXD A5,1
00333 0 50000 0 00331 CLA WT3-1
00334 0 62100 0 00251 STA A5
00335 0 02000 0 00217 TRA A6
00336 BSS 40
01372 REC BES 500
00000 END

```

DOWN. SET READ ERROR COUNTER.  
ONTO TAPE7  
READ A RECORD FROM TAPE THREE

END OF FILE.  
END OF RECORD.

ERROR.

SAVE WORD COUNT OF RECORD.

WRITE THE RECORD ONTO TAPE SEVEN.

TEST END OF RECORD.

GO READ NEXT RECORD.

READ ERROR PROCEDURE.

AT EOF ON 3, WRITE EOF ON 7.

REWINDS TAPES 2,3, AND 4 AND  
RETURNS TO LOADER.

AFTER 2ND FILE FROM 2 TO 6,  
TEST SENSE SWITCH 2.

UP. GO TEST SWITCH 1.  
DOWN. RESET INDEX REGISTER 1 TO 1.  
CHANGE A5 TRANSFER ADDRESS TO TAPE7.

AND GO READ FINAL FILE.

F6T00470  
F6T00480  
F6T00490  
F6T00500  
F6T00510  
F6T00520  
F6T00530  
F6T00540  
F6T00550  
F6T00560  
F6T00570  
F6T00580  
F6T00590  
F6T00600  
F6T00610  
F6T00620  
F6T00630  
F6T00640  
F6T00650  
F6T00660  
F6T00670  
F6T00680  
F6T00690  
F6T00700  
F6T00710  
F6T00720  
F6T00721  
F6T00722  
F6T00723  
F6T00730  
F6T00740  
F6T00750  
F6T00760  
F6T00770  
F6T00780  
F6T00790  
F6T00800  
F6T00810  
F6T00820  
F6T00830  
F6T00840  
F6T00850  
F6T00860  
F6T00870  
F6T00880  
F6T00890  
F6T00900

1  
1

# REM SUCCESSFUL COMPILATION RECORD

F1SC0010

SUCCESSFUL COMPILATION RECORD  
CONTROL IS RETURNED TO THIS RECORD AT THE COMPLETION OF A  
SINGLE PROBLEM COMPILATION, OR AT THE END OF BATCH  
COMPILATION. TAPE 1 IS REWOUND AND A LOAD BUTTON  
SEQUENCE IS EXECUTED AT THE CARD READER.  
AN INSTALLATION MAY CHANGE THIS RECORD TO SUIT ITS OWN  
OPERATING NEEDS.

MASTER RECORD CARD = F0090000.

00030 -0 76000 0 00030  
00031 0 77200 0 00201  
00032 0 76200 0 00321  
00033 0 70000 0 00000  
00034 0 02000 0 00036  
00035 0 00000 0 77777  
00036 0 70000 0 00001  
00037 0 02000 0 00000  
00030

ORG 24  
LTM  
REW 1  
RCD 209  
CPY 0  
TRA SECCPY  
HTR 32767  
CPY 1  
TRA 0  
END 24

SECCPY

CARD READER LOAD BUTTON SEQUENCE.

CARD READER EMPTY, HALT.

F1SC0010  
F1SC0020  
F1SC0030  
F1SC0040  
F1SC0050  
F1SC0060  
F1SC0070  
F1SC0080  
F1SC0090  
F1SC0100  
F1SC0110  
F1SC0120  
F1SC0130  
F1SC0140  
F1SC0150  
F1SC0160  
F1SC0170  
F1SC0180  
F1SC0190

1  
1

REM SOURCE PROGRAM ERROR RECORD. THIS RECORD TESTS SL3 AND SL6 FISPE010

SOURCE PROGRAM ERROR RECORD. THIS RECORD TESTS SL3 AND SL6  
TO DETERMINE IF A CARD READER LOAD BUTTON SEQUENCE IS TO BE  
EXECUTED, OR IF THE NEXT PROGRAM IS TO BE COMPILED. SL3-ON  
IF TAPE 5 CANNOT BE READ OR EOF ON TAPE 5 BEFORE END CARD  
IS FOUND. SS6-ON IF IN BATCH COMPILE MODE.

MASTER RECORD CARD = F0100000.

00030	-0	76000	0	00007	ORG 24
00031	-0	76000	0	00141	LTM
00032	0	02000	0	00034	SLT 1
00033	0	02000	0	00053	TRA SS6TST
00034	0	76000	0	00166	TRA SKIPCM
00035	0	02000	0	00041	SS6TST SWT 6
00036	-0	76000	0	00143	TRA READCD
00037	0	02000	0	00055	SLT 3
00040	0	77200	0	00206	TRA SKIPBM
00041	0	77200	0	00204	REW 6
00042	0	77200	0	00203	READCD REW 4
00043	0	77200	0	00202	REW 3
00044	0	77200	0	00201	REW 2
00045	0	76200	0	00321	REW 1
00046	0	70000	0	00000	RCD 209
00047	0	02000	0	00051	CPY 0
00050	0	00000	0	77777	TRA SECCPY
00051	0	70000	0	00001	HTR 32767
00052	0	02000	0	00000	SECCPY CPY 1
00053	0	76200	0	00221	TRA 0
00054	0	76200	0	00221	SKIPCM RTB 1
00055	0	76200	0	00221	RTB 1
00056	0	02000	0	00004	SKIPBM RTB 1
				00030	TRA 4
					END 24

SL1-ON IF PROGRAM TO BE RE-TRIED.

SKIP TO COMMON RECORD  
SS6-ON IF IN BATCH MODE.  
SINGLE COMPILATION. READ CARD READER SEQ.  
ON IF END CARD ERROR FOUND BY BATCH MONITOR  
SKIP TO BATCH MONITOR RECORD

CARD READER LOAD BUTTON SEQUENCE.

CARD READER EMPTY.

SKIP OVER FILE 1 MARK TO BATCH MONITOR.  
SKIP OVER BATCH MONITOR RECORD  
AND/OR SKIP MACHINE ERROR RECORD  
TO 1-CS TO READ NEXT RECORD

FISPE010  
FISPE020  
FISPE030  
FISPE040  
FISPE050  
FISPE060  
FISPE070  
FISPE080  
FISPE090  
FISPE100  
FISPE110  
FISPE120  
FISPE130  
FISPE140  
FISPE150  
FISPE160  
FISPE170  
FISPE180  
FISPE190  
FISPE200  
FISPE210  
FISPE220  
FISPE230  
FISPE240  
FISPE250  
FISPE260  
FISPE270  
FISPE280  
FISPE290  
FISPE300  
FISPE310  
FISPE320

1  
1

## REM MONITOR PROGRAM FOR BATCH COMPILATION

F1BM0010

## MONITOR PROGRAM FOR BATCH COMPILATION

F1BM0010

F1BM0020

## MASTER RECORD CARD F0120000

00030	0	76000	0	00166	START	SWT 6	TEST SW6, UP = SINGLE PROBLEM,	F1BM0030
00031	0	02000	0	00146		TRA ADD93+1	SKIP OVER MACHINE ERROR RECORD AND GO TO SEC1	F1BM0040
00032	0	76000	0	00140		SLN 0	TURN OFF LIGHTS	F1BM0050
00033	0	53400	4	00237	A0001	LXA L(5),4	COUNTER FOR 5 TRIES TO READ TAPE 5.	F1BM0060
00034	-0	50000	0	00245		CAL BLANKS		F1BM0070
00035	0	60200	0	00233		SLW BUFFER-1		F1BM0080
00036	0	60200	0	00232		SLW BUFFER-2		F1BM0090
00037	-0	76000	0	00012		RTT	TURN OFF INDICATOR	F1BM0100
00040	0	76100	0	00000		NOP		F1BM0110
00041	0	76200	0	00205	ADD015	RTD 5		F1BM0120
00042	0	53400	3	00243		LXA L(14),3	ASSUME 14 WORDS PER RECORD	F1BM0130
00043	0	70000	1	00234	ADD02	CPY BUFFER,1		F1BM0140
00044	0	02000	0	00047		TRA ADD03		F1BM0150
00045	0	02000	0	00161		TRA A0090	EOF	F1BM0160
00046	0	02000	0	00050		TRA ADD04	EOR	F1BM0170
00047	2	00001	1	00043	ADD03	TIX A0002,1,1		F1BM0180
00050	0	77100	0	00377	ADD04	ARS 255		F1BM0190
00051	0	77100	0	00377		ARS 255		F1BM0200
00052	-0	76000	0	00012		RTT	TEST TAPE INOICATOR	F1BM0210
00053	0	02000	0	00150		TRA A0D80	ON, PREPARE TO READ AGAIN	F1BM0220
00054	0	76600	0	00202		WTD 2	OFF, WRITE THIS RECORD ON TAPE 2	F1BM0230
00055	0	70000	2	00234	A0D05	CPY BUFFER,2		F1BM0240
00056	2	00001	2	00055		TIX ADD05,2,1		F1BM0250
00057	0	76600	0	00333		IOO		F1BM0260
00060	-0	76000	0	00012		RTT		F1BM0270
00061	0	76100	0	00000		NOP		F1BM0280
00062	3	00000	0	00074	ADD70	TXH ADD71,0	ROUTINE TO RESTORE PRINTER CARRIAGE AND PRINT	F1BM0290
00063	0	07400	4	00332		TSX PRINT,C	FIRST STATEMENT OF CURRENT SOURCE PROGRAM	F1BM0300
00064	0	00234	0	00215		PZE RESTR,0,BUFFER		F1BM0310
00065	0	76600	0	00361		WPR		F1BM0320
00066	0	76600	0	00361		WPR		F1BM0330
00067	0	76600	0	00361		WPR		F1BM0330
00070	0	76600	0	00361		WPR		F1BM0330
00071	0	76600	0	00361		WPR		F1BM0330
00072	0	50200	0	00062		CLS ADD70	CHANGE TXH TO TXL	F1BM0350
00073	0	60100	0	00062		STO A0D70		F1BM0360
00074	0	76000	0	00141	ADD71	SLN 1	SL1-ON IF AT LEAST 1 SOURCE STATEMENT ON TP 2	F1BM0370
00075	-0	75400	0	00000		PXD 0,0	EXISTS	F1BM0380
00076	0	56000	0	00216		LDQ BUFFER-14	TEST FOR COMMENT CARD	F1BM0390
00077	-0	76300	0	00006		LGL 6		F1BM0400
00100	0	40200	0	00244		SUB L(C)		F1BM0410
00101	0	10000	0	00033		TZE A0001	YES, GO READ NEXT TAPE RECORD	F1BM0420
00102	-0	76300	0	00030		LGL 24	DISCARD FORMULA NUMBER	F1BM0430
00103	-0	75400	0	00000		PX0 0,0		F1BM0440
00104	-0	76300	0	00006		LGL 6	TEST FOR CONTINUATION CARO	F1BM0450
00105	0	10000	0	00110		TZE A0006		F1BM0460
00106	0	40200	0	00246		SUB BLANK		F1BM0470
00107	-0	10000	0	00033		TNZ ADD01	YES, GO READ NEXT TAPE RECORD	F1BM0480
00110	0	53400	1	00242	ADD06	LXA L(12),1	THIS RECORD IS OF FIRST CARO OF A	F1BM0490

```

00111 0 53400 2 00241 LXA L(7),2
00112 0 50000 0 00234 CLA BUFFER
00113 0 60100 0 00232 STO BUFFER-2
00114 0 56000 0 00217 LDQ BUFFER-13
00115 0 07400 4 00200 TSX SUB1,4
00116 0 40200 0 00247 SUB L(E)
00117 -0 10000 0 00033 TNZ ADD01
00120 0 07400 4 00200 TSX SUB1,4
00121 0 40200 0 00250 SUB L(N)
00122 -0 10000 0 00033 TNZ ADD01
00123 0 07400 4 00200 TSX SUB1,4
00124 0 40200 0 00251 SUB L(D)
00125 -0 10000 0 00033 TNZ ADD01
00126 0 07400 4 00200 TSX SUB1,4
00127 0 40200 0 00252 SUB L(I)
00130 -0 10000 0 00033 TNZ ADD01
00131 0 07400 4 00200 TSX SUB1,4
00132 0 07400 4 00200 TSX SUB1,4
00133 0 40200 0 00253 SUB COMMA
00134 -0 10000 0 00033 TNZ ADD01
00135 0 07400 4 00200 TSX SUB1,4
00136 0 07400 4 00200 TSX SUB1,4
00137 0 40200 0 00253 SUB COMMA
00140 -0 10000 0 00033 TNZ ADD01
00141 0 07400 4 00200 TSX SUB1,4
00142 0 07400 4 00200 TSX SUB1,4
00143 0 40200 0 00253 SUB COMMA
00144 -0 10000 0 00033 TNZ ADD01
00145 0 77000 0 00202 ADD93 WEF 2
00146 0 76200 0 00221 RTB 1
00147 0 02000 0 00004 TRA 4
00150 0 76400 0 00205 ADD80 BST 5
00151 2 00001 4 00041 TIX ADD015,4,1
00152 0 07400 4 00332 TSX PRINT,4
00153 0 00301 0 00254 TP5ERR,0,TP5END
00154 0 76000 0 00143 SPROER SLN 3
00155 0 76400 0 00201 BSTRTN BST 1
00156 0 76400 0 00201 BST 1
00157 0 76400 0 00201 BST 1
00160 0 02000 0 00004 TRA 4
00161 -0 76000 0 00141 ADD90 SLT 1
00162 0 02000 0 00167 TRA ADD91
00163 0 07400 4 00332 TSX PRINT,4
00164 0 00315 0 00301 ENDCD,0,CDTEND
00165 0 77200 0 00205 REW 5
00166 0 02000 0 00154 TRA SPROER
00167 0 76400 0 00201 ADD91 BST 1
00170 0 77200 0 00206 REW 6
00171 0 77200 0 00205 REW 5
00172 0 07400 4 00332 TSX PRINT,C
00173 0 00332 0 00315 REMA,0,ENDA
00174 0 07400 4 00332 TSX PRINT,C
00175 0 00216 0 00215 HTR RESTR,0,RESTR+1
00176 0 16100 0 00177 TQO *+1

```

```

FORTRAN STATEMENT. PREPARE TO TEST F1BM0500
FOR END(.....) CARD F1BM0510
POSITION ENDMARK F1BM0520
F1BM0530
F1BM0540
F1BM0550
F1BM0560
F1BM0570
F1BM0580
F1BM0590
F1BM0600
F1BM0610
F1BM0620
F1BM0630
F1BM0640
F1BM0650
F1BM0660
F1BM0670
F1BM0680
F1BM0690
F1BM0700
F1BM0710
F1BM0720
F1BM0730
F1BM0740
F1BM0750
F1BM0760
F1BM0770
F1BM0780
F1BM0790
F1BM0800
F1BM0810
F1BM0820
F1BM0830
F1BM0840
F1BM0850
F1BM0860
F1BM0870
F1BM0880
F1BM0890
F1BM0900
F1BM0910
F1BM0920
F1BM0930
F1BM0940
F1BM0950
F1BM0970
F1BM0974
F1BM0976
F1BM0980
F1BM0990
F1BM1000
F1BM1010
F1BM1020

```

TEST FIRST CHAR FOR E

TEST SECOND CHAR FOR N

TEST THIRD CHAR FOR D

TEST FOURTH CHAR FOR (

TEST SIXTH CHAR FOR ,

TEST EIGHTH CHAR FOR ,

TEST TENTH CHAR FOR COMMA

THIS IS END CARD, TERMINATE FILE  
 SKIP OVER MACHINE ERROR RECORD.  
 GO TO 1-CS FOR SECTION ONE  
 TAPE ERROR

SL3-ON IF TAPE 5 CANNOT BE READ OR END CARD  
 TROUBLE.  
 BACKSPACE SYSTEM TAPE TO SOURCE PROGRAM ERROR  
 RECORD.  
 CALL IN 1 - CS.

IS THERE A PROBLEM TO BE COMPILED  
 FINISHED, REWIND ALL TAPES

00177	0 02000 0 00155	TRA BSTRTN	F18M1030
00200	-0 75400 0 00000 SUB1	PXD 0,0	F18M1040
00201	2 00001 2 00205	TXI ADD50,2,1	F18M1050
00202	0 53400 2 00240	LXA L(6),2	F18M1060
00203	0 56000 1 00234	LDQ BUFFER,1	F18M1070
00204	1 77777 1 00205	TXI ADD50,1,-1	F18M1080
00205	-0 76300 0 00006 ADD50	LGL 6	F18M1090
00206	0 34000 0 00246	CAS BLANK	F18M1100
00207	0 02000 0 00211	TRA ADD51	F18M1110
00210	0 02000 0 00200	TRA SUB1	F18M1120
00211	0 34000 0 00235 ADD51	CAS ENDMK	F18M1130
00212	0 02000 4 00001	TRA 1,4	F18M1140
00213	0 02000 0 00033	TRA ADD01	F18M1150
00214	0 02000 4 00001	TRA 1,4	F18M1160
00215	016060606060	RESTR BCD 11	F18M1165
	00234 BUFFER	BES 14	F18M1170
00234	-377777777777	OCT 777777777777	F18M1180
00235	+0000000000077	OCT 77	F18M1190
00236	0 00000 0 00003 L(3)	3	F18M1200
00237	0 00000 0 00005 L(5)	5	F18M1210
00240	0 00000 0 00006 L(6)	6	F18M1220
00241	0 00000 0 00007 L(7)	7	F18M1230
00242	0 00000 0 00014 L(12)	12	F18M1240
00243	0 00000 0 00016 L(14)	14	F18M1250
00244	000000000023	L(C) BCD 100000C	F18M1260
00245	606060606060	BLANKS BCD 1	F18M1270
00246	0000000000060	BLANK BCD 100000	F18M1280
00247	0000000000025	L(E) BCD 100000E	F18M1290
00250	0000000000045	L(N) BCD 100000N	F18M1300
00251	0000000000024	L(D) BCD 100000D	F18M1310
00252	0000000000074	L(I) BCD 100000I	F18M1320
00253	0000000000073	COMMA BCD 100000,	F18M1330
00254	006060606060	TP5ERR BCD 90	F18M1340
00255	632147256005		
00256	602346456321		
00257	314531452760		
00260	624664512325		
00261	606264224751		
00262	462751214460		
00263	512521246005		
00264	606331442562		
00265	606445626423	BCD 9 UNSUCCESSFULLY. TAPE 5 NOW POSITIONED AT RECORD WHICH	F18M1350
00266	232562622664		
00267	434370336063		
00270	214725600560		
00271	454666604746		
00272	623163314645		
00273	252460216360		
00274	512523465124		
00275	606630312330		
00276	602321454546	BCD 3 CANNOT BE READ.	F18M1360
00277	636022256060		
00300	512521243360		
	00301 TP5END BSS 0		F18M1370

SUBROUTINE TO BRING NEXT NON BLANK  
CHAR OF BUFFER REGION TO AC.

TAPE 5 CONTAINING SOURCE SUBPROGRAM READ 5 TIMES



00301	006060606060	ENDCD	BCD 90	END CARD MISSING OR MISPUNCHED FOR LAST SUBPROGR	F18M1380
00302	254524602321				
00303	512460443162				
00304	623145276046				
00305	516044316247				
00306	644523302524				
00307	602646516043				
00310	216263606264				
00311	224751462751				
00312	214460222531				
00313	452760234644				
00314	473143252433				
	00315	CDTEND	BSS 0		F18M1400
00315	016060606060	REMA	BCD 71		F18M1410
00316	606060606060				
00317	606060606060				
00320	606060606060				
00321	606060606060				
00322	606060606060				
00323	606060606060				
00324	606330256043				
00325	216263604751				
00326	462243254460				
00327	302162602225				
00330	254560475146				
00331	232562622524				
	00332	ENDA	BSS 0		
				PRINT CONTROL SUBROUTINE.	
	00001	A	EQU 1		F18M1430
	00002	B	EQU 2		F18M1450
	00004	C	EQU 4		F18M1460
	00332	PRINT	BSS 0		F18M1470
00332	0 50000 4 00001	RAN	CLA 1,4		F18M1480
00333	0 62100 0 00374		STA RNA		F18M1490
00334	0 77100 0 00022		ARS 18		F18M1500
00335	0 60100 0 00375		STO RNB		F18M1510
00336	-0 63400 4 00376		SXD RNC,4		F18M1520
00337	0 50000 0 00374	RN40	CLA RNA		F18M1530
00340	0 40000 0 00377		ADD RND		F18M1540
00341	0 34000 0 00375		CAS RNB		F18M1550
00342	0 76100 0 00000		NOP		F18M1560
00343	0 02000 0 00364		TRA RN50		F18M1570
00344	0 76700 0 00022		ALS 18		F18M1580
00345	0 40000 0 00374		ADD RNA		F18M1590
00346	0 60100 0 00350		STO RAN10		F18M1600
00347	0 07400 4 00401		TSX WOT,C		F18M1610
A 00350	0 00000 0 00000	RAN10	HTR		F18M1620
00351	0 50000 0 00350		CLA RAN10		F18M1630
00352	0 77100 0 00022		ARS 18		F18M1640
00353	0 40200 0 00400		SUB RNE		F18M1650
00354	0 62100 0 00361		STA RN20		F18M1660
00355	0 40200 0 00400		SUB RNE		F18M1670
00356	0 62100 0 00362		STA RN30		F18M1680
					F18M1690
					F18M1700
					F18M1710

	00357	0	62100	0	00374		STA	RNA
	00360	0	50000	0	00613		CLA	BLNKS
A	00361	0	60100	0	00000	RN20	STO	
A	00362	0	60100	0	00000	RN30	STO	
	00363	0	02000	0	00337		TRA	RN40
	00364	0	50000	0	00375	RN50	CLA	RNB
	00365	0	76700	0	00022		ALS	18
	00366	0	40000	0	00374		ADD	RNA
	00367	0	60100	0	00371		STO	RN60
	00370	0	07400	4	00401		TSX	WOT,C
A	00371	0	00000	0	00000	RN60	HTR	
	00372	-0	53400	4	00376		LXD	RNC,C
	00373	0	02000	4	00002		TRA	2,C
A	00374	0	00000	0	00000	RNA	HTR	
A	00375	0	00000	0	00000	RNB	HTR	
A	00376	0	00000	0	00000	RNC	HTR	
	00377	0	00000	0	00024	RND	HTR	20
	00400	0	00000	0	00001	RNE	HTR	1

PRINT SUBROUTINE.

	00401	-0	63400	1	00551	WOT	SXD	X1,1
	00402	-0	63400	2	00557		SXD	X2,2
	00403	0	50000	4	00001		CLA	1,4
	00404	0	62100	0	00432		STA	T5
	00405	0	62200	0	00614		STD	X4
	00406	0	77100	0	00022		ARS	18
	00407	0	40000	0	00614		ADD	X4
	00410	0	62100	0	00463		STA	PR2
	00411	0	62100	0	00510		STA	C19
	00412	0	40200	4	00001		SUB	1,4
	00413	0	10000	4	00002		TZE	2,4
	00414	-0	12000	4	00002		TMI	2,4
	00415	-0	63400	4	00614		SXD	X4,4
	00416	0	73400	4	00013	L11	PAX	11,4
	00417	-0	63400	4	00422		SXD	PR6,4
	00420	-0	50000	0	00564		CAL	WP
	00421	0	60100	0	00564		STO	WP
TD	00422	3	00000	0	00423	PR6	TXH	T4
	00423	0	76600	0	00361	T4	WPR	
TD	00424	-3	00000	0	00430	Z2	TXL	S3
ATD	00425	-3	00000	0	00000	OZ2	TXL	
	00426	0	76000	0	00364	SP4	SPR	4
TD	00427	-3	00000	0	00461		TXL	RPR+2
	00430	0	50200	0	00564	S3	CLS	WP
	00431	0	60100	0	00564		STO	WP
	00432	-0	50000	0	00432	T5	CAL	*
	00433	0	77100	0	00036		ARS	30
	00434	0	10000	0	00426		TZE	SP4
	00435	0	34000	0	00615		CAS	YZONE
TD	00436	-3	00000	0	00440		TXL	BK
TD	00437	-3	00000	0	00460		TXL	RPR+1
	00440	0	34000	0	00616	BK	CAS	BNK
TD	00441	-3	00000	0	00443		TXL	DIGF
TD	00442	-3	00000	0	00461		TXL	RPR+2

PRINT ROUTINE

X  
X  
X  
X  
X  
X  
X  
X  
X  
B-A+1 IN AC

INITIALIZE SWITCH

X

SET SWITCH FOR MASKING  
CHARACTER FROM TYPE WHEEL 1  
OBTAIN FIRST CHARACTER  
X  
DOUBLE SPACE IF ZERO  
TEST FOR SPACE SUPPRESS  
NO  
SUPPRESS SPACE  
TEST FOR BLANK  
NO  
BLANK

F18M1720  
F18M1730  
F18M1740  
F18M1750  
F18M1760  
F18M1770  
F18M1780  
F18M1790  
F18M1800  
F18M1810  
F18M1820  
F18M1830  
F18M1840  
F18M1850  
F18M1860  
F18M1870  
F18M1880  
F18M1890  
F18M1900  
F18M1910  
F18M1920  
F18M1930  
F18M1940  
F18M1950  
F18M1960  
F18M1970  
F18M1980  
F18M1990  
F18M2000  
F18M2010  
F18M2020  
F18M2030  
F18M2040  
F18M2050  
F18M2060  
F18M2070  
F18M2080  
F18M2090  
F18M2100  
F18M2110  
F18M2120  
F18M2130  
F18M2140  
F18M2150  
F18M2160  
F18M2170  
F18M2180  
F18M2190  
F18M2200  
F18M2210  
F18M2220  
F18M2230  
F18M2240  
F18M2250

	00443	0	76000	0	00372	DIGF	SPR 10	SET CHANNEL SKIP	F1BM2260
	00444	-0	32000	0	00445		ANA MK	MASK OUT ZONE	F1BM2270
	00445	0	73400	1	00017	MK	PAX 15,1	OBTAIN SPR COMBINATION	F1BM2280
	00446	1	00001	1	00447		TXI N2,1,1	X	F1BM2290
	00447	-2	00010	1	00451	N2	TNX N3,1,8	X	F1BM2300
	00450	0	76000	0	00370		SPR 8	X	F1BM2310
	00451	-2	00004	1	00453	N3	TNX N4,1,4	X	F1BM2320
	00452	0	76000	0	00364		SPR 4	X	F1BM2330
	00453	-2	00002	1	00455	N4	TNX N5,1,2	X	F1BM2340
	00454	0	76000	0	00362		SPR 2	X	F1BM2350
	00455	-2	00001	1	00457	N5	TNX RPR,1,1	X	F1BM2360
	00456	0	76000	0	00361		SPR 1	X	F1BM2370
	00457	0	76600	0	00361	RPR	WPR		F1BM2380
	00460	0	76000	0	00365		SPR 5	SUPPRESS SPACE	F1BM2390
	00461	0	50000	0	00613		CLA BLNKS	FIND LAST NON-BLANK GROUP	F1BM2400
	00462	-0	53400	4	00523		LXD C14,4	X	F1BM2410
	00463	0	34000	4	00000	PR2	CAS 0,4	X	F1BM2420
	00464	1	77777	4	00467		TXI PR1,4,-1	X	F1BM2430
	00465	1	00001	4	00463		TXI PR2,4,1	X	F1BM2440
	00466	1	77777	4	00467		TXI PR1,4,-1	X	F1BM2450
	00467	-0	63400	4	00527	PR1	SXD C16,4	STORE END TEST	F1BM2460
	00470	-0	63400	4	00541		SXD C18,4	X	F1BM2470
	00471	-0	63400	4	00474		SXD PR8,4	X	F1BM2480
	00472	-0	63400	4	00601		SXD WP4,4	X	F1BM2490
	00473	-0	53400	4	00422		LXD PR6,4	X	F1BM2500
D	00474	-2	00000	4	00500	PR8	TNX PR5,4		F1BM2510
	00475	-3	00014	4	00477		TXL PR3,4,12		F1BM2520
	00476	0	76000	0	00370		SPR 8	FIRST CYCLE	F1BM2530
	00477	-0	53400	4	00422	PR3	LXD PR6,4	INITIALIZE GROUP COUNT	F1BM2540
	00500	0	53400	2	00502	PR5	LXA PR7,2	INITIALIZE LEFT SETUP	F1BM2550
	00501	-0	53400	1	00544		LXD YZ1,1	CLEAR CARD IMAGE	F1BM2560
T	00502	-0	75400	0	00000	PR7	PXD	X	F1BM2570
	00503	0	60200	1	00662	PR4	SLW LT,1	X	F1BM2580
	00504	0	60200	1	00642		SLW RT,1	X	F1BM2590
	00505	2	00001	1	00503		TIX PR4,1,1	X	F1BM2600
	00506	-0	50000	0	00620	CIR	CAL COL1	INITIALIZE COLUMN INDICATOR	F1BM2610
	00507	0	60200	0	00621	CI2	SLW COL	X	F1BM2620
	00510	0	56000	4	00000	CI9	LDQ 0,4	OBTAIN GROUP	F1BM2630
	00511	-0	63400	4	00425		SXD OZ2,4	STORE GROUP COUNT	F1BM2640
	00512	0	53400	4	00514		LXA Q6,4	SET CHARACTER COUNT	F1BM2650
T	00513	-0	75400	0	00000	CI1	PXD		F1BM2660
	00514	-0	76300	0	00006	Q6	LGL 6		F1BM2670
	00515	0	73400	1	00000		PAX 0,1		F1BM2680
	00516	-0	50000	0	00621		CAL COL	POSITION COLUMN INDICATOR	F1BM2690
	00517	0	77100	4	00006		ARS 6,4	X	F1BM2700
	00520	2	00020	1	00544		TIX YZ1,1,16	TEST FOR DIGIT	F1BM2710
	00521	3	00017	1	00547		TXH YZ2,1,15	TEST FOR Y-ZONE	F1BM2720
	00522	-0	60200	3	00657	CI5	ORS D,3	STORE DIGIT	F1BM2730
	00523	2	00001	4	00513	CI4	TIX C11,4,1	COUNT CHARACTERS	F1BM2740
	00524	0	77100	0	00001	CI3	ARS 1	SHIFT AND TEST COLUMN	F1BM2750
	00525	-0	53400	4	00425		LXD OZ2,4	RESTORE GROUP COUNT	F1BM2760
	00526	1	77777	4	00527		TXI C16,4,-1	COUNT GROUPS	F1BM2770
D	00527	-3	00000	4	00531	CI6	TXL C17,4	TEST FOR LAST NON-BLANK GROUP	F1BM2780
	00530	-0	10000	0	00507		TNZ C12	TEST FOR END OF ROW	F1BM2790

	00531	-0	50000	2	00644	CI7	CAL 8.3,2	FORM TRUE 8.4	F1BM2800
	00532	-0	60200	2	00647		ORS D-8,2	AND 3 ROWS AND	F1BM2810
	00533	-0	60200	2	00654		ORS D-3,2	MOVE 8.4 AND 8.3	F1BM2820
	00534	0	60200	2	00645		SLW 8.2,2	ROWS	F1BM2830
	00535	-0	50000	2	00643		CAL 8.4,2	FORM TRUE 8.4	F1BM2840
	00536	-0	60200	2	00647		ORS D-8,2	X	F1BM2850
	00537	-0	60200	2	00653		ORS D-4,2	X	F1BM2860
	00540	0	60200	2	00644		SLW 8.3,2	X	F1BM2870
D	00541	-3	00000	4	00564	CI8	TXL WP,4	TEST FOR END	F1BM2880
	00542	3	00017	2	00564		TXH WP,2,15	TEST FOR RIGHT HALF	F1BM2890
	00543	1	00020	2	00506		TXI CIR,2,16	INITIALIZE RIGHT HALF	F1BM2900
	00544	2	00020	1	00552	YZ1	TXI XZ1,1,16	TEST FOR 16/CH/32	F1BM2910
	00545	3	00017	1	00555		TXH XZ2,1,15	TEST FOR X-ZONE	F1BM2920
	00546	-0	60200	3	00657		ORS D,3	STORE DIGIT	F1BM2930
	00547	-0	60200	2	00661	YZ2	ORS Y,2	STORE Y-ZONE	F1BM2940
	00550	2	00001	4	00513		TXI CI1,4,1	COUNT CHARACTERS	F1BM2950
TD	00551	-3	00000	0	00524	X1	TXL CI3	OBTAIN NEXT GROUP	F1BM2960
	00552	2	00020	1	00560	XZ1	TXI OZ1,1,16	TEST FOR 32/CH/48	F1BM2970
	00553	3	00017	1	00523		TXH CI4,1,15	TEST FOR BLANK	F1BM2980
	00554	-0	60200	3	00657		ORS D,3	STORE DIGIT	F1BM2990
	00555	-0	60200	2	00660	XZ2	ORS X,2	STORE X-ZONE	F1BM3000
	00556	2	00001	4	00513		TXI CI1,4,1	COUNT CHARACTERS	F1BM3010
TD	00557	-3	00000	0	00524	X2	TXL CI3	OBTAIN NEXT GROUP	F1BM3020
	00560	-0	60200	2	00657	OZ1	ORS Z,2	STORE O-ZONE	F1BM3030
	00561	-0	60200	3	00657		ORS D,3	STORE DIGIT	F1BM3040
	00562	2	00001	4	00513		TXI CI1,4,1	COUNT CHARACTERS	F1BM3050
TD	00563	-3	00000	0	00524		TXL CI3		F1BM3060
TD	00564	3	00000	0	00566	WP	TXH WP9	INVERTED TO TXL IF PROGRAM CARRIAGE CONTROL	F1BM3070
TD	00565	-3	00000	0	00572		TXL WP7	NO PROGRAM	F1BM3080
	00566	-0	53400	1	00612	WP9	LXD WP2,1	MASK OUT FIRST COL. OF CARD IMAGE	F1BM3090
	00567	-0	50000	0	00617		CAL MK2	X	F1BM3100
	00570	0	32000	1	00662	ANS	ANS LT,1	X	F1BM3110
	00571	2	00001	1	00570		TXI ANS,1,1	X	F1BM3120
	00572	-0	53400	1	00424	WP7	LXD Z2,1	COPY LOOP	F1BM3130
	00573	0	70000	1	00646	CRAN	CPY LT-12,1		F1BM3140
	00574	0	70000	1	00626		CPY RT-12,1	X	F1BM3150
	00575	1	77777	1	00576		TXI T2,1,-1		F1BM3160
	00576	3	77764	1	00573	T2	TXH CRAN,1,-12		F1BM3170
	00577	-0	50000	0	00564		CAL WP	RESET SWITCH FOR SECOND CYCLE	F1BM3180
	00600	0	60100	0	00564		STO WP	X	F1BM3190
D	00601	3	00000	4	00610	WP4	TXH WP5,4		F1BM3200
	00602	-0	53400	1	00551		LXD X1,1	NO, RELOAD INDEX REGISTERS AND RETURN	F1BM3210
	00603	-0	53400	2	00557		LXD X2,2	X	F1BM3220
	00604	-0	53400	4	00614	WT2	LXD X4,4	X	F1BM3230
	00605	0	02000	4	00002	L2	TRA 2,4	X	F1BM3240
	00606	0	76600	0	00361	RPR2	WPR		F1BM3250
TD	00607	-3	00000	0	00461		TXL PR2-2		F1BM3260
	00610	0	76600	0	00361	WP5	WPR		F1BM3270
	00611	0	76000	0	00371		SPR 9	SECOND CYCLE	F1BM3280
	00612	-3	00014	0	00500	WP2	TXL PR5,0,12	CONVERT REST OF LINE	F1BM3290
	00613	606060606060				BLNKS	BCD 1		F1BM3300
A	00614	0	00000	0	00000	X4	HTR		F1BM3310
	00615	+0000000000020				YZONE	OCT 20		F1BM3320
	00616	+0000000000060				BNK	OCT 60		F1BM3330

00617	+37777777777	MK2	OCT	37777777777
00620	-0 00000 0 00000	COL1	MZE	
00621	COL	BSS	1	
00642	RT	BES	16	
00642	8.5	BSS	1	
00643	8.4	BSS	1	
00644	8.3	BSS	1	
00645	8.2	BSS	1	
00657	D	BES	9	
00657	Z	BSS	1	
00660	X	BSS	1	
00661	Y	BSS	1	
00662	LT	SYN	Y+1	
00644	8.4L	SYN	LT-14	
00624	8.4R	SYN	RT-14	
00662		BSS	27	
00030		END	24	

F1BM3340  
 F1BM3350  
 F1BM3360  
 F1BM3370  
 F1BM3380  
 F1BM3390  
 F1BM3400  
 F1BM3410  
 F1BM3420  
 F1BM3430  
 F1BM3440  
 F1BM3450  
 F1BM3460  
 F1BM3470  
 F1BM3480  
 F1BM3490  
 F1BM3500

1  
1

REM MACHINE ERROR RECORD. THIS RECORD HALTS TO PERMIT OPERATOR F1ME0010  
MACHINE ERROR RECORD. THIS RECORD HALTS TO PERMIT OPERATOR F1ME0010  
INTERVENTION. IF THE SAME SOURCE PROGRAM IS TO BE RE-TRIED, F1ME0020  
OPERATOR SHOULD PRESS START. IF NEXT SOURCE PROGRAM IS TO BE F1ME0030  
COMPILED, THE OPERATOR MUST MANUALLY TURN SL1-ON, AND PRESS F1ME0040  
START. F1ME0050

00000 0 00000 0 00000

MASTER RECORD CARD = F0130000.

00030 0 00000 0 00030  
00031 -0 76000 0 00141 NEXTIN  
00032 0 02000 0 00004  
00033 0 76400 0 00201  
00034 0 76400 0 00201  
00035 0 02000 0 00004  
00030

ORG 24  
HTR NEXTIN  
SLT 1  
TRA 4  
BST 1  
BST 1  
TRA 4  
END 24

GO TO 1 - CS TO REPEAT PROBLEM.  
BACKSPACE OVER MACHINE ERROR RECORD.  
BACKSPACE OVER BATCH MONITOR.  
TO 1-CS TO READ NEXT RECORD.

F1ME0060  
F1ME0070  
F1ME0080  
F1ME0090  
F1ME0100  
F1ME0110  
F1ME0120  
F1ME0130  
F1ME0160  
F1ME0170

PST

APPLIED PROGRAMMING, IBM , L. MAY AND A. S. NOBLE JR.  
704 FORTRAN II / SECTION ONE. 29 OCT 58

SECTION 1= READS IN AND CLASSIFIES STATEMENTS. FOR ARITHMETIC FORMULAS, COMPILES THE OBJECT (OUTPUT) INSTRUCTIONS. FOR NONARITHMETIC STATEMENTS INCLUDING INPUT-OUTPUT, DOES A PARTIAL COMPILATION, AND RECORDS THE REMAINING INFORMATION IN TABLES.

THE FIVE MAJOR DIVISIONS OF SECTION 1 ARE= COMMON, STATES A, B, C, AND D. COMMON REMAINS IN LOWER MEMORY THROUGHOUT SECTION1. STATE A READS IN AND CLASSIFIES ALL STATEMENTS, AND TREATS NONARITHMETIC STATEMENTS. STATES B, C, AND D TREAT ARITHMETIC FORMULAS.

SECTION 1 / COMMON =  
704 FORTRAN MASTER RECORD CARD / COMMON = F0140000.

00000 0 00004 0 00030  
00001 0 00000 0 03437

ORG 0  
PZE ORGCOM,,1TOCS  
PZE ORGA-1

PART 1 / WORKING STORAGE, BUFFERS, AND TABLE PARAMETERS= EIFO AND SENSE SWITCH SIMULATORS. TAPE TABLE BUFFERS. TAPE TABLE PARAMETERS - INTET. DRUM TABLE PARAMETERS. FORSUB COUNT AND BUFFER. CIB BUFFER AND PARAMETERS. REMAINING WORKING STORAGE.

PART 2 / CONSTANTS USED BY SECTION ONE.

PART 3 / SUBROUTINES USED BY SECTION ONE=

NAME	FUNCTION
C0150,2	SCAN, AND CONVERT NUMERICS.
C0160,2	SCAN CHARACTERS.
C0180,2	CONVERT NUMERICS.
C0190X,4	INITIALIZE C0190 TO 1ST WORD OF F.
C0390,4	INSERT CHARACTER.
C0190,4	OBTAIN NEXT NON-BLANK CHAR IN AC.
CIT00,4	COMPILED INSTRUCTION TABLE ENTRIES.
DIM,SR,4	DIMENSION TABLE SEARCH.
DRTABS(,4)	DRUM TABLE ENTRIES.
GETIFN,4	GET INTERNAL FORMULA NUMBER.
JIF(GIF),4	JUMPS (GETS) IFN IN SL AND TL.
MTR000	MONITOR STATES FROM DRUM.
RA000,4	COMPUTE RELATIVE ADDRESS.
RDRX,4	READ DRUM INTO BUFR.
SR6DC1,1	CONVERT 6 BCD DIGITS TO 1 BINARY.
SS000,4	SCAN AND PROCESS SUBSCRIPTS.
SUBX00,4	ADD BLANKS TO SUBROUTINE NAMES.
TESTFX,1	TEST FOR FIXED OR FLOATING POINT.
TEST,.,4	TEST CHARACTER IN THE AC.
TET00,1	TAPE TABLE ENTRIES.

DIAG

DIAGNOSTIC CALLERS.

4F10000  
4F10001  
4F10002  
4F10003  
4F10004  
4F10005  
4F10006  
4F10007  
4F10008  
4F10009  
4F10010  
4F10011  
4F10012  
4F100121  
4F100122  
4F100123  
4F10013  
4F10014  
4F10015  
4F10016  
4F10017  
4F10018  
4F10019  
4F10020  
4F10021  
4F10022  
4F10023  
4F10024  
4F10025  
4F10026  
4F10027  
4F10028  
4F10029  
4F10030  
4F10031  
4F10032  
4F10033  
4F10034  
4F10035  
4F10036  
4F10037  
4F10038  
4F10039  
4F10040  
4F10041  
4F10042  
4F10043  
4F10044  
4F10045  
4F10046

```

THE FOLLOWING CONVENTIONS ARE USED IN THIS LISTING=
** IN THE ADDRESS, TAG, OR DECREMENT OF AN INSTRUCTION
INDICATES THAT THIS FIELD WILL BE MODIFIED BY THE PROGRAM.
* IN COL/36 INDICATES THE INSTRUCTION IS A TRANSFER OUT OF
THIS LOGICAL BLOCK OR SUBROUTINE.
C IN COL/34 INDICATES THE INSTRUCTION WAS CORRECTED.
P IN COL/32 INDICATES THE INSTRUCTION WAS INSERTED (PATCH).

*****
COMMON/1-WORKING STORAGE, BUFFERS, AND TABLE PARAMETERS=
00030 ORGCOM ORG 24
*****
EIFNO AND SENSE SWITCH SIMULATORS.
00030 0 00000 0 00000 EIFNO PZE **,*** EXTERNAL,,INTERNAL FORMULA NUMBER.
00031 0 00000 0 00002 ENDI1 PZE 2 SIMULATOR FOR SENSE SWITCH 1.
00032 0 00000 0 00002 ENDI2 PZE 2 SIMULATOR FOR SENSE SWITCH 2.
00033 0 00000 0 00002 ENDI3 PZE 2 SIMULATOR FOR SENSE SWITCH 3.
00034 0 00000 0 00002 ENDI4 PZE 2 SIMULATOR FOR SENSE SWITCH 4.
00035 0 00000 0 00002 ENDI5 PZE 2 SIMULATOR FOR SENSE SWITCH 5.
*****
BUFFERS USED BY TET00 FOR THE TAPE TABLES.
00036 TEIFNO BSS 10 EXTERNAL,,INTERNAL FORMULA NUMBERS.
00050 TDO BSS 10 DO STATEMENTS.
00062 TIFGO BSS 10 IF AND GO TO STATEMENTS.
00074 TRAD BSS 10 IF AND GO TO TRANSFER ADDRESSES.
00106 FORTAG BSS 10 INDEXES TO TAU AND SIGMA TABLES.
00120 FORVAR BSS 10 RIGHT - NON-SUB. FX. PT. VARIABLES.
00132 FORVAL BSS 10 LEFT - NON-SUB. FX. PT. VARIABLES.
00144 FRET BSS 10 FREQUENCY STATEMENTS.
00156 EQUIT BSS 10 EQUIVALENCE STATEMENTS.
00170 CLOSUB BSS 10 NAMES OF SUBROUTINES.
00202 FORMAT BSS 10 FORMAT STATEMENTS.
00214 SUBDEF BSS 10 SUBROUTINE DEFINITION STATEMENTS.
00226 COMMON BSS 10 UPPER MEMORY STORAGE STATEMENTS.
00240 HOLARG BSS 10 HOLLERITH ARGUMENTS FOR SUBROUTINE.
00252 NONEXC BSS 10 NON-EXECUTED STATEMENTS.
00264 TSTOPS BSS 10 STOP STATEMENTS.
00276 CALLFN BSS 10 1ST / LAST IFN FOR CALL STATEMENTS.
00310 FMTEFN BSS 10 TABLE OF FORMAT EXTERNAL FORMNOS.
END OF THE TAPE TABLE BUFFERS.
*****
INTET/ TABLE PARAMETERS USED BY TET00, WHERE
O = ORIGIN OF TABLE BUFFER,
B = BUFFER CAPACITY,
A = ADDRESS OF TABLE ENTRY,
E = ENTRY LENGTH IN WORDS,
C = COUNT OF BLOCKS PUT ON TAPE,
P = PORTION OF BUFFER THAT IS FULL.

```



00322	0	00012	0	00036	INTET	PZE	TEIFNO,,10
00323	0	00001	0	00030		PZE	EIFNO,,1
00324	0	00000	0	00000		PZE	***,***
00325	0	00012	0	00050		PZE	TDO,,10
00326	0	00005	0	01105		PZE	1C,,5
00327	0	00000	0	00000		PZE	***,***
00330	0	00012	0	00062		PZE	TIFGO,,10
00331	0	00002	0	01105		PZE	1C,,2
00332	0	00000	0	00000		PZE	***,***
00333	0	00012	0	00074		PZE	TRAD,,10
00334	0	00001	0	01112		PZE	1G,,1
00335	0	00000	0	00000		PZE	***,***
00336	0	00012	0	00106		PZE	FORTAG,,10
00337	0	00001	0	01347		PZE	G,,1
00340	0	00000	0	00000		PZE	***,***
00341	0	00012	0	00120		PZE	FORVAR,,10
00342	0	00002	0	01347		PZE	G,,2
00343	0	00000	0	00000		PZE	***,***
00344	0	00012	0	00132		PZE	FORVAL,,10
00345	0	00002	0	01347		PZE	G,,2
00346	0	00000	0	00000		PZE	***,***
00347	0	00012	0	00144		PZE	FRET,,10
00350	0	00001	0	01112		PZE	1G,,1
00351	0	00000	0	00000		PZE	***,***
00352	0	00012	0	00156		PZE	EQUIT,,10
00353	0	00002	0	01105		PZE	1C,,2
00354	0	00000	0	00000		PZE	***,***
00355	0	00012	0	00170		PZE	CLOSUB,,10
00356	0	00001	0	01347		PZE	G,,1
00357	0	00000	0	00000		PZE	***,***
00360	0	00012	0	00202		PZE	FORMAT,,10
00361	0	00002	0	01347		PZE	G,,2
00362	0	00000	0	00000		PZE	***,***
00363	0	00012	0	00214		PZE	SUBDEF,,10
00364	0	00001	0	01112		PZE	1G,,1
00365	0	00000	0	00000	SBDFCN	PZE	***,***
00366	0	00012	0	00226		PZE	COMMON,,10
00367	0	00001	0	01112		PZE	1G,,1
00370	0	00000	0	00000		PZE	***,***
00371	0	00012	0	00240		PZE	HOLARG,,10

00)	O,,B.
	A,,E.
	C,,P.
01)	O,,B.
	A,,E.
	C,,P.
02)	O,,B.
	A,,E.
	C,,P.
03)	O,,B.
	A,,E.
	C,,P.
04)	O,,B.
	A,,E.
	C,,P.
05)	O,,B.
	A,,E.
	C,,P.
06)	O,,B.
	A,,E.
	C,,P.
07)	O,,B.
	A,,E.
	C,,P.
08)	O,,B.
	A,,E.
	C,,P.
09)	O,,B.
	A,,E.
	C,,P.
10)	O,,B.
	A,,E.
	C,,P.
11)	O,,B.
	A,,E.
	C,,P.
12)	O,,B.
	A,,E.
	C,,P.
13)	O,,B.

4F10101  
 4F10102  
 4F10103  
 4F10104  
 4F10105  
 4F10106  
 4F10107  
 4F10108  
 4F10109  
 4F10110  
 4F10111  
 4F10112  
 4F10113  
 4F10114  
 4F10115  
 4F10116  
 4F10117  
 4F10118  
 4F10119  
 4F10120  
 4F10121  
 4F10122  
 4F10123  
 4F10124  
 4F10125  
 4F10126  
 4F10127  
 4F10128  
 4F10129  
 4F10130  
 4F10131  
 4F10132  
 4F10133  
 4F10134  
 4F10135  
 4F10136  
 4F10137  
 4F10138  
 4F10139  
 4F10140  
 4F10141  
 4F10142  
 4F10143  
 4F10144  
 4F10145  
 4F10146  
 4F10147  
 4F10148  
 4F10149  
 4F10150  
 4F10151  
 4F10152  
 4F10153  
 4F10154

00372	0	00001	0	01112	PZE	1G,,1	A,,E.	4F10155
00373	0	00000	0	00000	PZE	***,**	C,,P.	4F10156
00374	0	00012	0	00252	PZE	NONEXC,,10	14) O,,B.	4F10157
00375	0	00001	0	00030	PZE	EIFNO,,1	A,,E.	4F10158
00376	0	00000	0	00000	PZE	***,**	C,,P.	4F10159
00377	0	00012	0	00264	PZE	TSTOPS,,10	15) O,,B.	4F10160
00400	0	00001	0	00030	PZE	EIFNO,,1	A,,E.	4F10161
00401	0	00000	0	00000	PZE	***,**	C,,P.	4F10162
00402	0	00012	0	00276	PZE	CALLFN,,10	16) O,,B.	4F10163
00403	0	00001	0	01123	PZE	CALLNM,,1	A,,E.	4F10164
00404	0	00000	0	00000	PZE	***,**	C,,P.	4F10165
00405	0	00012	0	00310	PZE	FMTEFN,,10	17) O,,B.	4F10166
00406	0	00001	0	01366	PZE	SET,,1	A,,E.	4F10167
00407	0	00000	0	00000	PZE	***,**	C,,P.	4F10168
								4F10169
								4F10170
								4F10171
								4F10172
								4F10173
								4F10174
00410					BSS	3	EXPANSION SPACE FOR INTET.	4F10175
							END OF TAPE TABLE PARAMETERS.	4F10176
							*****	4F10177
							.....IX/ TABLE PARAMETERS USED BY DRTABS, WHERE	4F10178
							ARG1 = 1ST LOCATION OF ARGUMENT,	4F10179
							L = LENGTH OF ARGUMENT IN WORDS,	4F10180
							TDA = LOC. OF NEXT DRUM ENTRY,	4F10181
							N = NO. OF ENTRIES ON DRUM,	4F10182
							*** = TXL FOR ENTRY SUM TABLES,	4F10183
							*** = TXH FOR BLOCK SUM TAB(FLCN),	4F10184
							FDA = LOC. OF 1ST DRUM ENTRY,	4F10185
							K = BUFFER CAPACITY IN ENTRIES,	4F10186
							DBL = K*(L+1) FOR ENTRY SUM TABLE,	4F10187
							DBL = K*L+1 FOR BLOCK SUM TABLE,	4F10188
							J = DRUM CAPACITY IN ENTRIES,	4F10189
							I = 5 - DRUM NUMBER.	4F10190
								4F10191
00413	0	00001	0	01350	PZE	G+1,,1	FIXCON) ARG1+L,,L	4F10192
00414	0	00000	0	00002	PZE	FIXCON,,**	TDA,,N	4F10193
00415	-3	00062	0	00002	TXLOP	TXL FIXCON,,50*1	*** FDA,,K*L	4F10194
00416	0	00144	0	00144	PZE	50*2,,100	DBL,,J	4F10195
00417	1	00003	0	02073	FXCNIX	TXI ALT,,5-2	TXI ALT,,I	4F10196
								4F10197
00420	0	00001	0	01350	PZE	G+1,,1	FLOCON) ARG1+L,,L	4F10198
00421	0	00000	0	00312	PZE	FLOCON,,**	TDA,,N	4F10199
00422	3	00062	0	00312	TXHOP	TXH FLOCON,,50*1	*** FDA,,K*L	4F10200
00423	0	00702	0	00063	PZE	50*1+1,,450	DBL,,J	4F10201
00424	1	00003	0	02073	FLCNIX	TXI ALT,,5-2	TXI ALT,,I	4F10202
								4F10203
00425	0	00002	0	01133	PZE	E+3+2,,2	TAU1 ) ARG1+L,,L	4F10204
00426	0	00000	0	00000	PZE	TAU1,,**	TDA,,N	4F10205
00427	-3	00062	0	00000	TXL	TAU1,,25*2	*** FDA,,K*L	4F10206
00430	0	00144	0	00113	PZE	25*3,,100	DBL,,J	4F10207
00431	1	00001	0	02073	TAU1IX	TXI ALT,,5-4	TXI ALT,,I	4F10208

00432	0	00004	0	01135	PZE	E+3+4,,4	TAU2	)	ARG1+L,,L	4F10209
00433	0	00000	0	00454	PZE	TAU2,,**			TDA,,N	4F10210
00434	-3	00060	0	00454	TXL	TAU2,,12*4	***	FDA,,K*L		4F10211
00435	0	00132	0	00074	PZE	12*5,,90			DBL,,J	4F10212
00436	1	00001	0	02073	TAU2IX	TXI	ALT,,5-4		TXI	ALT,,I
										4F10213
										4F10214
										4F10215
00437	0	00006	0	01137	PZE	E+3+6,,6	TAU3	)	ARG1+L,,L	4F10216
00440	0	00000	0	01356	PZE	TAU3,,**			TDA,,N	4F10217
00441	-3	00060	0	01356	TXL	TAU3,,8*6	***	FDA,,K*L		4F10218
00442	0	00113	0	00070	PZE	8*7,,75			DBL,,J	4F10219
00443	1	00001	0	02073	TAU3IX	TXI	ALT,,5-4		TXI	ALT,,I
										4F10220
										4F10221
00444	0	00001	0	01142	PZE	E+11+1,,1	SIGMA1)	ARG1+L,,L		4F10222
00445	0	00001	0	01230	PZE	SIGMA1+2,,1			TDA,,N	4F10223
00446	-3	00036	0	01226	TXL	SIGMA1,,30*1	***	FDA,,K*L		4F10224
00447	0	00036	0	00074	PZE	30*2,,30			DBL,,J	4F10225
00450	1	00003	0	02073	SIG1IX	TXI	ALT,,5-2		TXI	ALT,,I
										4F10226
										4F10227
00451	0	00002	0	01107	PZE	1C+2,,2	DIM1	)	ARG1+L,,L	4F10228
00452	0	00000	0	00310	PZE	DIM1,,**			TDA,,N	4F10229
00453	-3	00000	0	00310	ORGDM1	TXL	DIM1,,0	***	FDA,,K*L	4F10230
00454	0	00144	0	00000	PZE	0,,100			DBL,,J	4F10231
00455	1	00002	0	02071	DIM1IX	TXI	DIMALT,,5-3		TXI	ALT,,I
										4F10232
										4F10233
00456	0	00002	0	01107	PZE	1C+2,,2	DIM2	)	ARG1+L,,L	4F10234
00457	0	00000	0	00764	PZE	DIM2,,**			TDA,,N	4F10235
00460	-3	00000	0	00764	ORGDM2	TXL	DIM2,,0	***	FDA,,K*L	4F10236
00461	0	00144	0	00000	PZE	0,,100			DBL,,J	4F10237
00462	1	00002	0	02071	DIM2IX	TXI	DIMALT,,5-3		TXI	ALT,,I
										4F10238
										4F10239
00463	0	00003	0	01110	PZE	1C+3,,3	DIM3	)	ARG1+L,,L	4F10240
00464	0	00000	0	01440	PZE	DIM3,,**			TDA,,N	4F10241
00465	-3	00000	0	01440	ORGDM3	TXL	DIM3,,0	***	FDA,,K*L	4F10242
00466	0	00132	0	00000	PZE	0,,90			DBL,,J	4F10243
00467	1	00002	0	02071	DIM3IX	TXI	DIMALT,,5-3		TXI	ALT,,I
										4F10244
										4F10245
										4F10246
										4F10247
										4F10248
										4F10249
										4F10250
										4F10251
										4F10252
										4F10253
										4F10254
										4F10255
										4F10256
										4F10257
										4F10258
										4F10259
										4F10260
										4F10261
										4F10262
										4F10263
										4F10264
										4F10265
										4F10266
										4F10267
										4F10268
										4F10269
										4F10270
										4F10271
										4F10272
										4F10273
										4F10274
										4F10275
										4F10276
										4F10277
										4F10278
										4F10279
										4F10280
										4F10281
										4F10282
										4F10283
										4F10284
										4F10285
										4F10286
										4F10287
										4F10288
										4F10289
										4F10290
										4F10291
										4F10292
										4F10293
										4F10294
										4F10295
										4F10296
										4F10297
										4F10298
										4F10299
										4F10300
										4F10301
										4F10302
										4F10303
										4F10304
										4F10305
										4F10306
										4F10307
										4F10308
										4F10309
										4F10310
										4F10311
										4F10312
										4F10313
										4F10314
										4F10315
										4F10316
										4F10317
										4F10318
										4F10319
										4F10320
										4F10321
										4F10322
										4F10323
										4F10324
										4F10325
										4F10326
										4F10327
										4F10328
										4F10329
										4F10330
										4F10331
										4F10332
										4F10333
										4F10334
										4F10335
										4F10336
										4F10337
										4F10338
										4F10339
										4F10340
										4F10341
										4F10342
										4F10343
										4F10344
										4F10345
										4F10346
										4F10347
										4F10348
										4F10349
										4F10350
										4F10351
										4F10352
										4F10353
										4F10354
										4F10355
										4F10356
										4F10357
										4F10358
										4F10359
										4F10360
										4F10361
										4F10362

```

01100          ORG 576
01100 ERASE    BSS 5
01105 1C       BSS 5
01112 1G       BSS 1
01113 2G       BSS 1
01114 3G       BSS 1
01115 1H       BSS 1
01116 2H       BSS 1
01117 3LBAR    BSS 1
01120 ARERAS   BSS 1
01121 -0 00001 0 00004 ARGCNT MZE 4,,1
01122 ARGCTR   BSS 1
01123 0 00000 0 00000 CALLNM PZE **,,**
01124 CHSAVE   BSS 1
01125 DIMSAV   BSS 1
01126 E        BSS 14
01144 EPSM3    BSS 3
01147 EPS      BSS 1
01150 E1C      BSS 1
01151 EFN      BSS 1
01152 F        BSS 111
01331 FIRSTC   BSS 1
01332 FSNAME   BSS 1
01333 FT       BSS 12
01347 G        BSS 2
01351 GTAG     BSS 1
01352 3074000000 00 HOLCNT BCD 1H(0000)
01353 I        BSS 1
01354 LEFT     BSS 3
01357 0 00000 0 00000 LENGTH PZE **,,**
01360 NBAR     BSS 1
01361 N2       BSS 1
01362 OPNWRD   BSS 1
01363 0 00000 0 00000 PHI(I) PZE **,,**
01364 0 00000 0 00010 RAT   PZE 8,,**
01365 RESIDU   BSS 1
01366 1 00000 0 00000 SET   PON ..
01367 SL       BSS 1
01370 SYMBOL   BSS 1
01371 0 00000 0 00370 TL    PZE 31*8,,**
01372 0 00000 0 00000 TLINE PZE **

```

END OF COMMON WORKING STORAGE, BUFFERS, AND PARAMETERS.

\*\*\*\*\*

COMMON/2-CONSTANTS USED BY SECTION ONE=

```

01373 +0000000000012 TEN OCT 12
01374 +0000000000077 ENDMK OCT 77
01375 +0000000000074 OPEN OCT 74
01376 +0000000000073 COMMA OCT 73
01377 +0000000000034 CLOS OCT 34
01400 +0000000000013 EQUAL OCT 13
01401 +0000000000040 11Z OCT 40
01402 +0000000000061 SLASH OCT 61

```

```

COMMON WORKING STORAGE. 4F102625
COMMON WORKING STORAGE. 4F10263
COMMON WORKING STORAGE. 4F10264
COMMON WORKING STORAGE. 4F10265
COMMON WORKING STORAGE FOR STATE A. 4F10266
COMMON WORKING STORAGE. 4F10267
COMMON WORKING STORAGE. 4F10268
COMMON WORKING STORAGE. 4F10269
STORAGE USED BY ARITHMETIC. 4F10270
STORAGE USED BY ARITHMETIC. 4F10271
ARGUMENT COUNTER USED BY C30,C32. 4F10272
STORAGE USED BY ARITHMETIC. 4F10273
STORAGE USED BY ARITHMETIC. 4F10274
WORKING STORAGE USED BY ROYCNV. 4F10275
WORKING STORAGE USED BY SS000. 4F10276
WORKING STORAGE USED BY SS000. 4F10277
WORKING STORAGE USED BY SS000. 4F10278
EPSILON - VARIABLE USED BY RA000. 4F10279
COMMON WORKING STORAGE. 4F10280
EXTERNAL FORMULA NUMBER (F-1). 4F10281
ASSEMBLED STATEMENT REGION. 4F10282
USED BY SS000,TESTFX,C3000. 4F10283
NAME OF FUNCTION. 4F10284
SOURCE PROGRAM INPUT BUFFER. 4F10285
VARIABLE USED BY IOT, RA. 4F10286
WORKING STORAGE USED BY C3300. 4F10287
STORAGE USED BY ARITHMETIC. 4F10288
STORAGE USED BY ARITHMETIC. 4F10289
STORAGE USED BY ARITHMETIC. 4F10290
STORAGE USED BY ARITHMETIC. 4F10291
STORAGE USED BY ARITHMETIC. 4F10292
ERASABLE USED BY STATE D. 4F10293
VARIABLE USED BY IOT. 4F10294
REMAINDER OF F-REGION WORD.(C0190) 4F10295
VARIABLE USED BY IOT. 4F10296
REMAINDER OF F-REGION WORD.(C0190) 4F10297
WORKING STORAGE USED BY SS000. 4F10298
VARIABLE USED BY IOT. 4F10299
VARIABLE USED BY IOT. 4F10300
VARIABLE USED BY IOT. 4F10301
VARIABLE USED BY IOT. 4F10302
VARIABLE USED BY IOT. 4F10303
VARIABLE USED BY IOT. 4F10304
VARIABLE USED BY IOT. 4F10305
VARIABLE USED BY IOT. 4F10306
VARIABLE USED BY IOT. 4F10307
VARIABLE USED BY IOT. 4F10308
VARIABLE USED BY IOT. 4F10309
VARIABLE USED BY IOT. 4F10310
VARIABLE USED BY IOT. 4F10311
VARIABLE USED BY IOT. 4F10312
VARIABLE USED BY IOT. 4F10313
VARIABLE USED BY IOT. 4F10314
VARIABLE USED BY IOT. 4F10315

```

```

(1010) - CTEST-11
111111 - CTEST-10
( - CTEST-9
, - CTEST-8
) - CTEST-7
= - CTEST-6
- - CTEST-5
/ - CTEST-4

```

01403	+000000000033	POINT	OCT 33
01404	+000000000020	122	OCT 20
01405	+000000000054	STAR	OCT 54
	01406	CTEST	BSS 0

  

01406	000000000000	L(0)	BCD 1000000
01407	000000000001	L(1)	BCD 1000001
01410	000000000002	L(2)	BCD 1000002
01411	000000000003	L(3)	BCD 1000003
01412	000000000004	L(4)	BCD 1000004
01413	000000000005	L(5)	BCD 1000005
01414	000000000006	L(6)	BCD 1000006
01415	000000000007	L(7)	BCD 1000007
01416	000000000010	L(8)	BCD 1000008
01417	000000000011	L(9)	BCD 1000009
01420	+000000000014	MINUS	OCT 14
01421	000000000023	L(C)	BCD 100000C
01422	000000000026	L(F)	BCD 100000F
01423	000000000030	L(H)	BCD 100000H
01424	+000000000032	CHAR2	OCT 32
01425	000000000046	L(O)	BCD 1000000
01426	+000000000052	CHAR3	OCT 52
01427	+000000000053	SPECOP	OCT 53
01430	+000000000060	BLANK	OCT 60
01431	000000000062	L(S)	BCD 100000S
01432	000000000063	L(T)	BCD 100000T
01433	000000000067	L(X)	BCD 100000X
01434	000000000071	L(Z)	BCD 100000Z
01435	+000000000072	PM	OCT 72
01436	+000000000100	BIT29	OCT 100
01437	+000000000121	A81	DEC 81
01440	+000000000140	L(96)	OCT 140
01441	+000000000160	L(112)	OCT 160
01442	+000000000777	MASK3	OCT 777
01443	+000000001000	1E9	OCT 1000
01444	000000002174	L(A)	BCD 10000A
01445	000000003074	L(H)	BCD 10000H
01446	000000003174	L(I)	BCD 10000I
01447	+000000006212	SAPSYM	OCT 6212
01450	+000000006712	IFSYM	OCT 6712
01451	+000000007112	CALLER	OCT 7112
01452	+000000077777	MASK2	OCT 77777
01453	+000000400000	2E17	OCT 400000
01454	+000001000000	2E18	OCT 1000000
01455	0 00001 0 00001	DECR1	PZE 1,1
01456	+000001000002	ABTAG2	OCT 1000002
01457	0 00002 0 00000	D2	PZE 1,2
01460	+000002000004	ABTAG3	OCT 2000004
01461	0 00003 0 00000	D3CN	PZE 1,3
01462	+000003077775	BETAD2	OCT 3077775
01463	0 00006 0 00000	D6	PZE 1,6
01464	0 00020 0 00000	FSIND	PZE 1,16
01465	0 00021 0 00000	DEC17	PZE 1,17
01466	0 00022 0 00000	DEC18	PZE 1,18

.	- CTEST-3	4F10316
+	- CTEST-2	4F10317
*	- CTEST-1	4F10318
ADDRESS USED FOR INDEXING ABOVE.		4F10319
0		4F10320
1		4F10321
2		4F10322
3		4F10323
4		4F10324
5		4F10325
6		4F10326
7		4F10327
8		4F10328
9		4F10329
-		4F10330
C		4F10331
F		4F10332
H		4F10333
CONSTANT USED BY CD000.		4F10334
O (ALPHABETIC)		4F10335
CONSTANT USED BY CD000.		4F10336
000005		4F10337
000000000060		4F10338
S		4F10339
T		4F10340
X		4F10341
Z		4F10342
RECORD MARK (ILLEGAL) -CD000		4F10343
		4F10344
		4F10345
CONSTANT USED BY IOT.		4F10346
USED BY C0500.		4F10347
USED BY C0400.		4F10348
-ARITHMETIC.		4F10349
ADDRESS=8		4F10350
INTERNAL FLO-PT VARIABLE PREFIX.		4F10351
		4F10352
INTERNAL FXD-PT VARIABLE PREFIX.		4F10353
		4F10354
		4F10355
		4F10356
2*15-1 -ARITHMETIC.		4F10357
TAG=4		4F10358
DECREMENT=1		4F10359
CONSTANT USED BY DRTABS.		4F10360
CONSTANT USED BY C3200.		4F10361
CONSTANT USED BY IOT.		4F10362
CONSTANT USED BY C3200.		4F10363
CONSTANT USED BY IOT.		4F10364
3*2*18+(-3) -ARITHMETIC.		4F10365
CONSTANT USED BY IOT.		4F10366
		4F10367
		4F10368
		4F10369

01467	+000032000000	PZ	OCT	32000000
01470	+000037777600	MASK5	OCT	37777600
01471	0 00040 0 00000	FNIND	PZE	9932
01472	0 00043 0 00000	DEC35	PZE	9935
01473	+000052000000	MZ	OCT	52000000
01474	+000200000000	NGTBIT	OCT	000200000000
01475	0 00220 0 00000	BTA	PZE	99144
01476	0 00300 0 00000	BDA	PZE	090192
01477	006060606060	5BLANS	BCD	10
01500	010000000000	EI	BCD	1100000
01501	020000000000	II	BCD	1200000
01502	030000000000	AI	BCD	1300000
01503	040000000000	PI	BCD	1400000
01504	060000000000	OI	BCD	1600000
01505	070000000000	XI	BCD	1700000
01506	+077775077775	BETAD1	OCT	77775077775
01507	+077777000000	1BAR	OCT	777770000000
01510	+170000000000	15P	DEC	1585
01511	+176060606060	PROCTR	OCT	176060606060
01512	+200000000000	ADPLUS	OCT	200000000000
01513	217400000000	FLOVAR	BCD	1A10000
01514	256747740160	FXFX	BCD	1EXP11
01515	256747740260	FLFX	BCD	1EXP12
01516	256747740360	FLFL	BCD	1EXP13
01517	317400000000	FIXVAR	BCD	1I10000
01520	-0 00000 0 00000	MINUS0	MZE	0
01521	-0 00002 0 00000	DECM12	MZE	992
01522	-130000000000	ADSP0P	OCT	530000000000
01523	-136000000000	DOLSGN	OCT	536000000000
01524	-140000000000	ADSTAR	OCT	-140000000000
01525	-145400000000	STRSTR	OCT	-145400000000
01526	606060606060	BLANKS	BCD	1
01527	-377777700000	MASK1	OCT	-377777700000
01530	-377777777737	MASK4	OCT	-377777777737
01531	-377777777777	ALL1	OCT	-377777777777
01532	212424000000	L(ADD)	BCD	1ADD000
01533	214362000000	L(ALS)	BCD	1ALS000
01534	214521000000	L(ANA)	BCD	1ANA000
01535	215162000000	L(ARS)	BCD	1ARS000
01536	226262000000	L(BSS)	BCD	1BSS000
01537	232143000000	L(CAL)	BCD	1CAL000
01540	233062000000	L(CHS)	BCD	1CHS000
01541	234321000000	L(CLA)	BCD	1CLA000
01542	234344000000	L(CLM)	BCD	1CLM000
01543	234362000000	L(CLS)	BCD	1CLS000
01544	234770000000	L(CPY)	BCD	1CPY000
01545	242363000000	L(DCT)	BCD	1DCT000
01546	242524000000	L(DED)	BCD	1DED000
01547	246547000000	L(DVP)	BCD	1DVP000
01550	262124000000	L(FAD)	BCD	1FAD000
01551	262447000000	L(FDP)	BCD	1FDP000
01552	264447000000	L(FMP)	BCD	1FMP000
01553	266222000000	L(FSB)	BCD	1FSB000

PLUS ZERO -CD000.		4F10370
-ARITHMETIC.		4F10371
		4F10372
		4F10373
MINUS ZERO -CD000.		4F10374
		4F10375
CONSTANT USED BY IOT.		4F10376
CONSTANT USED BY IOT.		4F10377
006060606060		4F10378
	-ARITHMETIC.	4F10379
	-ARITHMETIC.	4F10380
	-ARITHMETIC.	4F10381
	-ARITHMETIC.	4F10382
	-ARITHMETIC.	4F10383
	-ARITHMETIC.	4F10384
(-3)*(2**18+(-3))	-ARITHMETIC.	4F10385
(2**15-1)*2**18	DECREMENT MASK.	4F10386
CONSTANT USED BY IOT.		4F10387
		4F10388
ADDITION SIGN -ARITHMETIC.		4F10389
AI INTERNAL FLOATING PT. VARIABLE.		4F10390
		4F10391
		4F10392
		4F10393
II INTERNAL FIXED PT. VARIABLE.		4F10394
		4F10395
		4F10396
500000		4F10397
CONSTANT USED BY C32000		4F10398
MULTIPLICATION SIGN -ARITHMETIC.		4F10399
EXPONENTIATION SIGN -ARITHMETIC.		4F10400
606060606060		4F10401
-(2**20-U.*2**15)	-ARITHMETIC.	4F10402
	-ARITHMETIC.	4F10403
END OF STATEMENT WORD.		4F10404
		4F10405
SYMBOLIC OPERATION CODE.		4F10406
SYMBOLIC OPERATION CODE.		4F10407
SYMBOLIC OPERATION CODE.		4F10408
SYMBOLIC OPERATION CODE.		4F10409
SYMBOLIC OPERATION CODE.		4F10410
		4F10411
SYMBOLIC OPERATION CODE.		4F10412
SYMBOLIC OPERATION CODE.		4F10413
SYMBOLIC OPERATION CODE.		4F10414
SYMBOLIC OPERATION CODE.		4F10415
		4F10416
SYMBOLIC OPERATION CODE.		4F10417
		4F10418
SYMBOLIC OPERATION CODE.		4F10419
SYMBOLIC OPERATION CODE.		4F10420
SYMBOLIC OPERATION CODE.		4F10421
SYMBOLIC OPERATION CODE.		4F10422
SYMBOLIC OPERATION CODE.		4F10423

01554	304751000000	L(HPR)	BCD	1HPR000	SYMBOLIC OPERATION CODE.	4F10424
01555	432421000000	L(LDA)	BCD	1LDA000	SYMBOLIC OPERATION CODE.	4F10425
01556	432450000000	L(LDQ)	BCD	1LDQ000	SYMBOLIC OPERATION CODE.	4F10426
01557	434362000000	L(LLS)	BCD	1LLS000	SYMBOLIC OPERATION CODE.	4F10427
01560	435162000000	L(LRS)	BCD	1LRS000	SYMBOLIC OPERATION CODE.	4F10428
01561	436724000000	L(LXD)	BCD	1LXD000	SYMBOLIC OPERATION CODE.	4F10429
01562	444770000000	L(MPY)	BCD	1MPY000	SYMBOLIC OPERATION CODE.	4F10430
01563	446225000000	L(MSE)	BCD	1MSE000	SYMBOLIC OPERATION CODE.	4F10431
01564	465121000000	L(ORA)	BCD	1ORA000	SYMBOLIC OPERATION CODE.	4F10432
01565	476225000000	L(PSE)	BCD	1PSE000	SYMBOLIC OPERATION CODE.	4F10433
01566	476724000000	L(PXD)	BCD	1PXD000	SYMBOLIC OPERATION CODE.	4F10434
01567	504751000000	L(QPR)	BCD	1QPR000	CONSTANT USED BY C3200.	4F10435
01570	506724000000	L(QXD)	BCD	1QXD000	CONSTANT USED BY C3200.	4F10436
01571	626321000000	L(STA)	BCD	1STA000	SYMBOLIC OPERATION CODE.	4F10437
01572	626346000000	L(STO)	BCD	1STO000	SYMBOLIC OPERATION CODE.	4F10438
01573	626350000000	L(STQ)	BCD	1STQ000	SYMBOLIC OPERATION CODE.	4F10439
01574	626422000000	L(SUB)	BCD	1SUB000	SYMBOLIC OPERATION CODE.	4F10440
01575	626724000000	L(SXD)	BCD	1SXD000	SYMBOLIC OPERATION CODE.	4F10441
01576	633167000001	L(TIX)	BCD	1TIX001	SYMBOLIC OPERATION CODE.	4F10442
01577	634665000000	L(TOV)	BCD	1TOV000	SYMBOLIC OPERATION CODE.	4F10443
01600	635046000000	L(TQO)	BCD	1TQO000	SYMBOLIC OPERATION CODE.	4F10444
01601	635121000000	L(TRA)	BCD	1TRA000	SYMBOLIC OPERATION CODE.	4F10445
01602	636267000000	L(TSX)	BCD	1TSX000	SYMBOLIC OPERATION CODE.	4F10446
01603	642621000000	L(UFA)	BCD	1UFA000	SYMBOLIC OPERATION CODE.	4F10447
END OF COMMON CONSTANTS USED BY SECTION ONE.						4F10448
*****						4F10449
COMMON/3-SUBROUTINES USED BY SECTION ONE=						4F10450
*****						4F10451
*****						4F10452
*****						4F10453
C0150,2/ CALLS=C0190,DIAG,C0180,C0160. CALLER=C0100.						4F10454
C0150 INSPECTS 1ST NB CHAR STARTING IN MQ. IF NUMERIC, SETS I						4F10455
= 0, AND CONVERTS SUCCESSIVE NUMERICS TO BINARY. IF NON-						4F10456
NUMERIC, SETS I = -0, AND PACKS INTO 1G SUCCESSIVE CHARACTERS						4F10457
UNTIL A ,()= OR ENDMK IS MET, AND LEFT IN THE AC.						4F10458
*****						4F10459
01604	-0 63400 2 01607	C0150	SXD	C015X,2	SAVE THE C(XR2).	4F10460
01605	0 07400 4 01707		TSX	C0190,4	* TEST 1ST NON-BLANK CHARACTER	4F10461
01606	0 34000 0 01417		CAS	L(9)	FOR NUMERIC OR NON-NUMERIC.	4F10462
01607	1 00000 0 01615	C015X	TXI	C0151,0,**	IF NON-NUMERIC, TRANSFER.	4F10463
01610	0 76100 0 00000		NOP		IF NUMERIC, THEN	4F10464
01611	0 07400 2 01655		TSX	C0180,2	* GO CONVERT TO BINARY.	4F10465
01612	0 60100 0 01113		STO	2G	SAVE NEXT NON-NUMERIC CHARACTER.	4F10466
01613	0 50000 0 01406		CLA	L(0)	PREPARE TO SET I TO +0.	4F10467
01614	1 00000 0 01620	FWA	TXI	C0152,0,**	GO SET I FOR NUMERIC.	4F10468
01615	0 07400 2 01624	C0151	TSX	C0160,2	* ASSEMBLE NON-NUMERICS IN 1G.	4F10469
01616	0 60100 0 01113		STO	2G	SAVE PUNCTUATION MARK, AND	4F10470
01617	0 50200 0 01406		CLS	L(0)	PREPARE TO SET I TO -0.	4F10471
01620	0 60100 0 01353	C0152	STO	I	SET I = +0, OR -0.	4F10472
01621	0 50000 0 01113		CLA	2G	PICKUP NEXT CHARACTER,	4F10473
01622	-0 53400 2 01607		LXD	C015X,2	RESTORE THE C(XR2), AND	4F10474
01623	0 02000 2 00001		TRA	1,2	* RETURN TO CALLER.	4F10475
END OF PROGRAM C0150.						4F10476
*****						4F10477

D

```

C0160,2/ CALLS=C0190,DIAG. CALLERS=C0100,C0200,C1000,C1200, 4F10478
C1500,C3000,C3100,C0150. 4F10479
C0160 ASSEMBLES LEFT-ADJUSTED IN 1G, THE CHAR IN THE AC AND 4F10480
SUCCESSIVE NB CHARS STARTING IN THE MQ, UNTIL A ,{}= OR ENDMK 4F10481
IS MET AND LEFT IN THE AC. ALSO MARKS END OF WORD WITH A 4F10482
BLANK, IF LESS THAN 6 CHARACTERS. 4F10483
01624 -0 63400 2 01631 C0160 SXD C016X,2 SAVE THE C(XR2), AND 4F10484
01625 0 53400 2 01406 LXA L(0),2 SET XR2 TO CONTROL SHIFTING. 4F10485
01626 0 60000 0 01112 STZ 1G CLEAR WORKING STORAGE. 4F10486
01627 0 53400 4 02652 C0161 LXA CTESTX,4 TEST 4F10487
01630 0 34000 4 01406 C0162 CAS CTEST,4 CHARACTER 4F10488
01631 1 00000 0 01633 C016X TXI C0163,0,** IN THE AC 4F10489
01632 1 00000 0 01642 TXI C0165,0 AGAINST 4F10490
01633 2 00001 4 01630 C0163 TIX C0162,4,1 ALL PUNCTUATION. 4F10491
01634 -3 00036 2 01636 TXL C0164,2,30 IF SYMBOL EXCEEDS 6 CHARACTERS, 4F10492
01635 0 07400 4 03400 TSX DIAG,4 * GO TO THE DIAGNOSTIC. 4F10493
01636 0 76700 2 00036 C0164 ALS 30,2 BUILD LEFT-ADJUSTED 4F10494
01637 -0 60200 0 01112 ORS 1G SYMBOL IN WORKING STORAGE. 4F10495
01640 0 07400 4 01707 TSX C0190,4 * GET NEXT NB CHARACTER IN THE AC. 4F10496
01641 1 00006 2 01627 TXI C0161,2,6 UPDATE SHIFT COUNT, AND CONTINUE. 4F10497
01642 3 00000 2 01644 C0165 TXH C0167,2,0 IF PUNCTUATION IS 1ST CHARACTER, 4F10498
01643 0 07400 4 03400 C0166 TSX DIAG,4 * OR ILLEGAL, GO TO THE DIAGNOSTIC. 4F10499
01644 -3 00005 4 01643 C0167 TXL C0166,4,5 IF LEGAL PUNCTUATION, THEN 4F10500
01645 0 60100 0 01115 STO 1H SAVE, AND 4F10501
01646 0 50000 0 01430 CLA BLANK ADD A BLANK 4F10502
01647 0 76700 2 00036 ALS 30,2 TO SYMBOLS THAT ARE LESS 4F10503
01650 -0 60200 0 01112 ORS 1G THAN 6 CHARACTERS IN LENGTH. 4F10504
01651 0 50000 0 01115 CLA 1H PICKUP PUNCTUATION MARK, 4F10505
01652 -0 53400 2 01631 LXD C016X,2 RESTORE THE C(XR2), AND 4F10506
01653 0 02000 2 00001 TRA 1,2 * RETURN TO CALLER. 4F10507
END OF PROGRAM C0160. 4F10508
***** 4F10509
***** 4F10510
C0180,2/ CALLS=C0190,DIAG. CALLERS=C0100,C0200,C0300,C0400, 4F10511
C1000,C1100,C1200,C1400,C1500,C0150. 4F10512
C0180 CONVERTS SUCCESSIVE NUMERICS STARTING IN THE MQ TO 4F10513
BINARY, PLACES RESULT IN 1G, AND LEAVES 1ST NON-NUMERIC IN 4F10514
THE AC. 1ST NUMERIC IS ASSUMED TO BE ALREADY IN THE AC. 4F10515
01654 0 07400 4 01707 C0180X TSX C0190,4 * OBTAIN 1ST NUMERIC IN THE AC. 4F10516
01655 0 60100 0 01112 C0180 STO 1G PLACE 1ST NUMERIC IN 1G. 4F10517
01656 0 07400 4 01707 TSX C0190,4 * EXAMINE NEXT NON-BLANK CHARACTER, 4F10518
01657 0 34000 0 01417 CAS L(9) AND IF NON-NUMERIC, THEN 4F10519
01660 0 02000 2 00001 TRA 1,2 * RETURN TO CALLER. 4F10520
01661 0 76100 0 00000 NOP IF NUMERIC, THEN 4F10521
01662 0 60100 0 01113 STO 2G SAVE DIGIT IN 2G. 4F10522
01663 0 50000 0 01112 CLA 1G MULTIPLY 4F10523
01664 0 76700 0 00002 ALS 2 C(1G) 4F10524
01665 0 40000 0 01112 ADD 1G BY 4F10525
01666 0 76700 0 00001 ALS 1 10, 4F10526
01667 0 40000 0 01113 ADD 2G AND ADD CURRENT DIGIT. 4F10527
01670 1 76626 0 01655 DCF TXI C0180,0,-F REPEAT PROCESS FOR NEXT CHARACTER. 4F10528
END OF PROGRAM C0180. 4F10529
***** 4F10530

```



					C0190X,4/ CALLERS=CD000,CB000,CC000,C0300,C3300.	4F10531
					C0190X INITIALIZES C0190 TO OBTAIN 1ST WORD OF FORMULA IN F.	4F10532
01671	0	50000	0	01670	C0190X CLA DCF	4F10533
01672	0	62200	0	01614	STD FWA	4F10534
01673	-0	63400	0	01724	SXD CHCTR,0	4F10535
01674	0	02000	4	00001	TRA 1,4	4F10536
					END OF PROGRAM C0190X.	4F10537
					*****	4F10538
					C0390,4/ CALLERS=C0300,C3300.	4F10539
					C0390 INSERTS THE CHARACTER IN THE AC INTO THE 1ST POSITION	4F10540
					TO THE LEFT OF THAT DEFINED BY FWA AND XR1.	4F10541
01675	0	50000	0	01374	C0390 CLA ENDMK	4F10542
01676	-0	53400	2	01614	LXD FWA,2	4F10543
01677	-0	53400	1	01724	LXD CHCTR,1	4F10544
01700	-2	00001	1	01703	TXN C0393,1,1	4F10545
01701	-0	76300	0	00006	C0392 LGL 6	4F10546
01702	2	00001	1	01701	TIX C0392,1,1	4F10547
01703	0	76000	0	00006	C0393 COM	4F10548
01704	0	32000	2	77777	ANS -1,2	4F10549
01705	-0	76300	0	00044	LGL 36	4F10550
01706	-0	60200	2	77777	ORS -1,2	4F10551
					C0390 CONTINUES BY USING C0190.	4F10552
					C0190,4/ CALLERS=CD000,CB000,CC000,C0100,C0200,C0300,C0400,	4F10553
					C0900,C1000,C1100,C1200,C1400,C1500,C1600,C3000,C3100,C3200,	4F10554
					C3300,C3400,C0150,C0160,C0180,SS000,ROYCNV,RSC,LPR.	4F10555
					C0190 OBTAINS IN AC THE NEXT NON-BLANK CHARACTER OF FORMULA.	4F10556
01707	-0	63400	1	01723	C0190 SXD C0194,1	4F10557
01710	-0	53400	1	01724	LXD CHCTR,1	4F10558
01711	0	56000	0	01365	LDQ RESIDU	4F10559
01712	2	00001	1	01720	C0191 TIX C0193,1,1	4F10560
01713	-0	53400	1	01614	LXD FWA,1	4F10561
01714	0	56000	1	00000	LDQ 0,1	4F10562
01715	1	77777	1	01716	TXI C0192,1,-1	4F10563
01716	-0	63400	1	01614	C0192 SXD FWA,1	4F10564
01717	0	53400	1	01414	LXA L(6),1	4F10565
01720	-0	75400	0	00000	C0193 PXD ,0	4F10566
01721	-0	76300	0	00006	LGL 6	4F10567
01722	0	34000	0	01430	CAS BLANK	4F10568
01723	1	00000	0	01725	C0194 TXI C0195,0,**	4F10569
01724	1	00000	0	01712	CHCTR TXI C0191,0,**	4F10570
01725	-0	63400	1	01724	C0195 SXD CHCTR,1	4F10571
01726	-0	60000	0	01365	STQ RESIDU	4F10572
01727	-0	53400	1	01723	LXD C0194,1	4F10573
01730	0	02000	4	00001	TRA 1,4	4F10574
					END OF PROGRAM C0190.	4F10575
					*****	4F10576
					CIT00,4/ CALLERS=C0200,C0400,C0900,C1000,C1100,C1300,C1600,	4F10577
					C3200,RDC,WBT,RBT,WRD,BRW,EFT,LPR,CMA,EMK,INPUT(OUTPUT),	4F10578
					ETMSW(LTMSW),LIB,VRA(VRD).	4F10579
					CIT00 MAKES ENTRIES IN THE COMPILED INSTRUCTION TABLE. WHEN	4F10580

```

01731 -0 63400 2 01102 CIT00   SXD CITXR2,2      THE BUFFER IS FULL IT IS WRITTEN AS A RECORD ONTO TAPE 3.  4F10585
01732 -0 63400 1 01101   SXD CITXR1,1      SAVE THE C(XR2). 4F10586
01733 -0 60000 0 01150   STQ CITMQR      SAVE THE C(XR1). 4F10587
01734 -0 53400 2 00637   LXD BBOX,2      SAVE THE C(MQR). 4F10588
01735 0 50000 0 00635   CLA BS      SET XR2 = 2S COMPL OF NO-WRDS-ENTD. 4F10589
01736 0 40200 0 00636   SUB EC      COMPARE BLOCK SIZE 4F10590
01737 -0 10000 0 01747   TNZ CIT04      WITH ENTRY COUNT. 4F10591
01740 0 76600 0 00223   WRS CITTAP      IF BLOCK IS NOT FULL,GO MAKE ENTRY. 4F10592
01741 0 73400 1 00000   PAX ,1      PREPARE TO WRITE BLOCK ON CIT TAPE. 4F10593
01742 0 70000 1 00640 CIT01   CPY CIB,1      SET XR1 = 0, AND 4F10594
01743 1 77777 1 01744   TXI CIT02,1,-1    COPY SUCCESSIVE 4F10595
01744 1 00001 2 01745 CIT02   TXI CIT03,2,1    WORDS OF BLOCK 4F10596
01745 3 00001 2 01742 CIT03   TXH CIT01,2,1    AND CONTINUE 4F10597
01746 0 76600 0 00333   IOD      UNTIL XR2 = 0. 4F10598
01747 0 53400 1 01412 CIT04   LXA L(4),1      WHEN DONE, 4F10599
01750 1 77777 4 01751 CIT05   TXI CIT05+1,4,-1    SET XR1 = ENTRY SIZE. 4F10600
01751 0 50000 4 00000   CLA 0,4      SET XR4 = -(ADDR OF NEXT ENTRY WRD) 4F10601
01752 0 62100 0 01753   STA CIT06      AND PICK UP ADDRESS OF NEXT ENTRY 4F10602
01753 0 50000 0 00000 CIT06   CLA **      TO SET NEXT ADDRESS. 4F10603
01754 0 60100 2 00640   STO CIB,2      MOVE ENTRY 4F10604
01755 1 77777 2 01756   TXI CIT07,2,-1    INTO CIB BUFFER, 4F10605
01756 2 00001 1 01750 CIT07   TIX CIT05,1,1    AND COUNT -1 FOR EACH WORD ENTERED. 4F10606
01757 -0 63400 2 00637   SXD BBOX,2      WHEN DONE, 4F10607
01760 -0 75400 2 02032 DMSR99   PXD DMSR05+1,2    SAVE THE C(XR2), AND 4F10608
01761 0 76000 0 00006   COM      COMPUTE THE 4F10609
01762 0 40000 0 01454   ADD 2E18      REAL NUMBER 4F10610
01763 -0 73400 2 02031 DMSR98   PDX DMSR05,2      OF WORDS ENTERED 4F10611
01764 -0 63400 2 00636   SXD EC,2      IN CIB BUFFER, AND 4F10612
01765 0 56000 0 01150   LDQ CITMQR      SAVE IN EC. 4F10613
01766 -0 53400 1 01101   LXD CITXR1,1    RESTORE THE C(MQR), 4F10614
01767 -0 53400 2 01102   LXD CITXR2,2    RESTORE THE C(XR1), 4F10615
01770 0 02000 4 00001   TRA 1,4      RESTORE THE C(XR2), AND 4F10616
                                * EXIT TO MAIN ROUTINE (5TH WRD CS). 4F10617
                                END OF PROGRAM CIT00. 4F10618
                                ***** 4F10619
                                DIM.SR,4/ CALLS=DIAG. CALLERS=C1200,SS000,CMA. 4F10621
                                DIM.SR SEARCHS THE DIMENSION TABLES. ENTRANCE IS TO DIM1SR, 4F10622
                                DIM2SR, OR DIM3SR ACCORDING TO THE DIMENSION. 4F10623
                                DIM1SR= ENTRY POINT FOR 1 DIMENSION TABLE. 4F10624
01771 -0 63400 4 01774 DIM1SR   SXD DMSR00,4      SAVE THE C(XR4) FOR RETURN, 4F10625
01772 -0 53400 4 00452   LXD DIM1IX-3,4    SET XR4 = NUMBER OF ENTRIES IN DIM1 4F10626
01773 0 50000 0 00453   CLA ORGDM1      AND PICK UP 1ST ADDRESS OF DIM1 TO 4F10627
01774 1 00000 0 02000 DMSR00   TXI DMSR01,0,**    GO SET DRUM ADDRESS. 4F10628
                                DIM2SR= ENTRY POINT FOR 2 DIMENSION TABLE. 4F10629
01775 -0 63400 4 01774 DIM2SR   SXD DMSR00,4      SAVE THE C(XR4) FOR RETURN, 4F10630
01776 -0 53400 4 00457   LXD DIM2IX-3,4    SET XR4 = NUMBER OF ENTRIES IN DIM2 4F10631
01777 0 50000 0 00460   CLA ORGDM2      AND PICK UP 1ST ADDRESS OF DIM2 TO 4F10632
02000 0 62100 0 01104 DMSR01   STA DRMADR      SET DRUM ADDRESS. 4F10633
02001 0 50000 0 01760   CLA DMSR99      SET LOOP ADDRESS TO 4F10634
02002 0 62100 0 02041   STA DMSR15      DMSR05+1 FOR DIM1 AND DIM2. 4F10635
02003 -0 50000 0 02065   CAL DMCN12      (STZ D3) 4F10636
02004 1 00000 0 02014 DMSR11   TXI DMSR02,0,**    GO SET OP FOR DIM1 AND DIM2. 4F10637
                                DIM3SR= ENTRY POINT FOR 3 DIMENSION TABLE. 4F10638

```

```

02005 -0 63400 4 01774 DIM3SR SXD DMSR00,4
02006 -0 53400 4 00464 LXI DIM3IX-3,4
02007 0 50000 0 00465 CLA ORGDM3
02010 0 62100 0 01104 STA DRMAADR
02011 0 50000 0 01763 CLA DMSR98
02012 0 62100 0 02041 STA DMSR15
02013 -0 50000 0 02066 CAL DMCN3
02014 0 60200 0 02031 DMSR02 SLW DMSR05
02015 0 60200 0 02044 SLW DMSR07
02016 -3 00000 4 02047 TXL DMSR08,4,0
02017 -0 63400 4 02004 SXD DMSR11,4
02020 0 53400 4 01413 DMSR14 LXA L(5),4
02021 -0 63400 4 02035 DMSR13 SXD DMSR12,4
02022 -0 53400 4 02004 LXI DMSR11,4
02023 0 76200 0 00303 RDR 3
02024 0 50000 0 01130 CLA E+2
02025 0 46000 0 01104 LDA DRMAADR
02026 0 70000 0 01100 DMSR04 CPY DRSYM
02027 0 04000 0 02043 TLQ DMSR06
02030 0 70000 0 01101 CPY D12
02031 0 00000 0 01102 DMSR05 PZE D3
02032 0 70000 0 01103 CPY DRCKSM
02033 0 34000 0 01100 CAS DRSYM
02034 0 07400 4 03400 TSX DIAG,4
02035 1 00000 0 02051 DMSR12 TXI DMSR09,0,**
02036 0 70000 0 01100 CPY DRSYM
02037 0 04000 0 02043 TLQ DMSR06
02040 0 70000 0 01101 CPY D12
02041 2 00001 4 00000 DMSR15 TIX **,4,1
02042 1 00000 0 02047 TXI DMSR08,0
02043 0 70000 0 01101 DMSR06 CPY D12
02044 0 00000 0 01102 DMSR07 PZE D3
02045 0 70000 0 01103 CPY DRCKSM
02046 2 00001 4 02026 TIX DMSR04,4,1
02047 -0 53400 4 01774 DMSR08 LXI DMSR00,4
02050 0 02000 4 00001 TRA 1,4
02051 -0 50000 0 01100 DMSR09 CAL DRSYM
02052 0 36100 0 01101 ACL D12
02053 0 36100 0 01102 ACL D3
02054 0 76000 0 00006 COM
02055 0 36100 0 01103 ACL DRCKSM
02056 0 76000 0 00006 COM
02057 0 10000 0 02063 TZE DMSR10
02060 -0 53400 4 02035 LXI DMSR12,4
02061 2 00001 4 02021 TIX DMSR13,4,1
02062 0 07400 4 03400 TSX DIAG,4
02063 -0 53400 4 01774 DMSR10 LXI DMSR00,4
02064 0 02000 4 00002 TRA 2,4

02065 0 60000 0 01102 DMCN12 STZ D3
02066 0 70000 0 01102 DMCN3 CPY D3
02067 456351000000 ENT BCD INTR000
02070 477125000000 NZE BCD 1PZE000

```

END OF PROGRAM DIM.SR.

```

SAVE THE C(XR4) FOR RETURN, 4F10639
SET XR4 = NUMBER OF ENTRIES IN DIM3 4F10640
AND PICK UP 1ST ADDRESS OF DIM3 TO 4F10641
SET DRUM ADDRESS. 4F10642
SET LOOP ADDRESS TO 4F10643
DMSR05 FOR DIM3. 4F10644
(CPY D3) 4F10645
SET OP CODES ACCORDING 4F10646
TO DIMENSION. 4F10647
IF TABLE IS EMPTY, GO OUT. 4F10648
SAVE ENTRY COUNT IN CASE OF ERROR. 4F10649
SET ERROR COUNTER FOR 5 ATTEMPTS. 4F10650
SAVE ERROR COUNTER, AND 4F10651
RESET ENTRY COUNT. 4F10652
SELECT DRUM. 4F10653
GET NAME OF VARIABLE. 4F10654
LOAD CURRENT DRUM ADDRESS, AND 4F10655
COPY DRUM SYMBOL. 4F10656
COMPARE WITH NAME OF VARIABLE, AND 4F10657
IF NOT LESS, COPY N1 AND N2. 4F10658
(DIM1 AND DIM2 = STZ, DIM3 = CPY). 4F10659
COPY CHECKSUM. 4F10660
COMPARE DRUM SYMBOL WITH NAME OF V. 4F10661
GO TO DIAGNOSTIC - MACHINE ERROR. 4F10662
IF NOT EQUAL, THEN 4F10663
CONTINUE 4F10664
PROCESS 4F10665
UNTIL 4F10666
TABLE 4F10667
IS EXHAUSTED. 4F10668
PASS OVER ENTRY 4F10669
(DIM1 AND DIM2 = STZ, DIM3 = CPY). 4F10670
AND CHECKSUM, AND 4F10671
REPEAT LOOP. 4F10672
RESTORE THE C(XR4), AND 4F10673
* TAKE NOT FOUND EXIT. 4F10674
COMPUTE A 4F10675
NEW 4F10676
LOGICAL CHECKSUM 4F10677
FOR ENTRY, AND 4F10678
COMPARE WITH 4F10679
DRUM CHECKSUM. 4F10680
IF NOT EQUAL, THEN 4F10681
REPEAT ATTEMPT, 4F10682
UNLESS PROCESS 4F10683
* FAILED 5 TIMES IN READING DRUM. 4F10684
RESTORE THE C(XR4), AND 4F10685
* TAKE FOUND EXIT TO MAIN ROUTINE. 4F10686
CONSTANT USED BY DIM.SR. 4F10687
CONSTANT USED BY DIM.SR. 4F10688
VARIABLE USED BY IO AND FL. 4F10689
VARIABLE USED BY FL. 4F10690
4F10691
4F10692

```

```

*****4F10693
DRTABS(,4)/ CALLS=RDRX,DIAG. CALLERS=C1200,SS000,ROYCNV,CMA,4F10694
VRA(VRD).4F10695
DRTABS IS CALLED BY TSX ....IX,4 -WHERE .... IS THE NAME OF4F10696
THE DRUM TABLE REFERRED TO. DRTABS MAKES ENTRIES IN THE DRUM4F10697
TABLES, AND ALSO SEARCHES THE DRUM TABLES FOR INFORMATION.4F10698
DIMALT= ENTRY POINT FOR DIMENSION TABLES.4F10700
02071 -0 50000 0 00415 DIMALT CAL TXLOP PICK UP SWITCH CONTROL,4F10701
D 02072 1 00000 0 02074 TXI DRTABS,0 AND GO SET SWITCH FOR DIM TABLES.4F10702
ALT= ENTRY POINT FOR ALL OTHER DRUM TABLES.4F10703
02073 0 50000 0 00422 ALT CLA TXHOP PICK UP SWITCH CONTROL,4F10704
02074 0 63000 0 02135 DRTABS STP DIMSW SET SWITCH.4F10705
02075 0 50000 4 00000 CLA 0,4 GET CALLER (TSX ....IX,4) IN AC.4F10706
02076 -0 63400 1 02535 SXD XR1,1 SAVE THE C(XR1),4F10707
02077 -0 63400 2 02173 SXD XR2,2 SAVE THE C(XR2),4F10708
02100 -0 63400 4 02215 SXD XR4,4 SAVE THE C(XR4), AND4F10709
02101 -0 60000 0 02357 STQ MQ SAVE THE C(MQR).4F10710
02102 0 40000 0 01407 ADD L(1) PREPARE TO MOVE PARAMETERS4F10711
02103 0 62100 0 02107 STA MOVE INTO WORKING STORAGE.4F10712
02104 0 40200 0 01412 SUB L(4) PREPARE TO UPDATE4F10713
02105 0 62100 0 02213 STA UPDATE PERMANENT PARAMETER.4F10714
02106 0 53400 1 01413 LXA L(5),1 MOVE 5 WORDS4F10715
02107 -0 50000 1 00000 MOVE CAL **,1 (....IX+1)4F10716
02110 0 60200 1 02365 SLW TEMP,1 OF PARAMETERS4F10717
02111 2 00001 1 02107 TIX MOVE,1,1 INTO WORKING STORAGE.4F10718
02112 0 50200 0 02360 CLS NAR INITIALIZE4F10719
02113 0 62100 0 02221 STA TRY ALL4F10720
02114 0 40000 0 01407 ADD L(1) GENERAL4F10721
02115 0 62100 0 02200 STA ESUM1 INSTRUCTIONS=4F10722
02116 0 62100 0 02202 STA ESUM2 X4F10723
02117 0 77100 0 00021 ARS 17 X4F10724
02120 0 40100 0 02526 ADM BIAS X4F10725
02121 0 62100 0 02530 STA JUMP1 X4F10726
02122 0 62100 0 02555 STA JUMP2 X4F10727
02123 -0 50000 0 02362 CAL FDA X4F10728
02124 0 62200 0 02235 STD COMPR X4F10729
02125 0 63000 0 02530 STP JUMP1 X4F10730
02126 0 63000 0 02152 STP SW X4F10731
02127 0 63000 0 02210 STP RX4 X4F10732
02130 0 50000 0 02533 CLA LBUF X4F10733
02131 0 62100 0 02222 STA BUFL X4F10734
02132 0 50000 0 02361 CLA TDA X4F10735
02133 -0 53400 2 02361 LXD TDA,2 X4F10736
02134 -0 63400 2 02146 SXD BUFF+1,2 X4F10737
D 02135 -3 00000 0 02145 DIMSW TXL BUFF,0 IF DIM TABLE, SKIP SEARCH.4F10738
02136 -3 00000 2 02150 TXL XERR01+1,2,0 SKIP IF TABLE IS EMPTY.4F10739
02137 -0 53400 1 02360 LXD NAR,1 4F10740
02140 -0 63400 2 02223 SXD NC,2 4F10741
02141 -0 63400 2 02143 SXD ADD01,2 4F10742
02142 -2 00001 1 02235 ADD02 TNX COMPR,1,1 COMPUTES (N*L).4F10743
02143 1 00000 2 02142 ADD01 TXI ADD02,2,** (N)4F10744
02144 -0 53400 2 02362 BUFFM1 LXD FDA,2 4F10745
02145 -0 53400 1 02363 BUFF LXD DBL,1 L(J)4F10746

```

D	02146	2	00000	1	02150		TIX	BUFF+3,1,**
	02147	1	00000	0	02256	XERR01	TXI	WHICH,0
	02150	-0	53400	1	02364		LXD	DI,1
	02151	0	76600	1	00305		WDR	5,1
D	02152	-3	00000	0	02174	SW	TXL	EBLK,0
	02153	-3	00000	2	02156		TXL	ADD04,2,0
	02154	1	00001	2	02155		TXI	ADD03,2,1
	02155	-2	00062	2	02163	ADD03	TXN	ADD05,2,50
	02156	0	60000	0	02365	ADD04	STZ	DUMP
	02157	0	50000	0	02361		CLA	TDA
	02160	0	62100	0	02362		STA	FDA
	02161	0	40000	0	01407		ADD	L(1)
	02162	0	62100	0	02361		STA	TDA
	02163	-0	50000	0	02365	ADD05	CAL	DUMP
	02164	0	36100	0	01347		ACL	G
	02165	0	60200	0	02365		SLW	DUMP
	02166	0	46000	0	02362		LDA	FDA
	02167	0	70000	0	02365		CPY	DUMP
	02170	0	76600	1	00305		WDR	5,1
	02171	0	46000	0	02361		LDA	TDA
	02172	0	70000	0	01347		CPY	G
	02173	1	00000	0	02205	XR2	TXI	NOWIN,0,**
	02174	-0	75400	0	00000	EBLK	PXD	,0
	02175	-0	53400	2	02360		LXD	NAR,2
	02176	0	46000	0	02361		LDA	TDA
	02177	-2	00001	2	02202		TXN	ESUM2,2,1
	02200	-0	70000	2	00000	ESUM1	CAD	**,2
	02201	2	00001	2	02200		TIX	ESUM1,2,1
	02202	-0	70000	0	00000	ESUM2	CAD	**,2
	02203	0	60200	0	02365		SLW	DUMP
	02204	0	70000	0	02365		CPY	DUMP
	02205	-0	50000	0	02360	NOWIN	CAL	NAR
	02206	0	77100	0	00022		ARS	18
	02207	0	40000	0	01455		ADD	DECR1
	02210	-3	00000	0	02212	RX4	TXL	RX4+2,0,**
	02211	0	40200	0	01407		SUB	L(1)
	02212	0	40100	0	02361		ADM	TDA
	02213	0	60100	0	00000	UPDATE	STO	**
	02214	-0	53400	2	02361		LXD	TDA,2
	02215	1	00000	0	02247	XR4	TXI	OUT,0,**
	02216	-0	53400	4	02223	NXBLK	LXD	NC,4
	02217	-0	53400	2	02362		LXD	FDA,2
	02220	-0	53400	1	02360	NEW	LXD	NAR,1
	02221	0	50000	1	00000	TRY	CLA	**,1
	02222	0	34000	2	00000	BUFL	CAS	**,2
	02223	1	00000	0	02225	NC	TXI	NC+2,0,**
	02224	1	77777	2	02242		TXI	YEA,2,-1
	02225	-2	00001	4	02144		TXN	BUFFM1,4,1
	02226	-0	63400	1	02227		SXD	NC+4,1
	02227	2	00000	2	02220		TIX	NEW,2,**
	02230	-0	63400	4	02223		SXD	NC,4
	02231	-0	50000	0	02363		CAL	DBL
	02232	0	40100	0	02362		ADM	FDA
	02233	0	62100	0	02362		STA	FDA

(N) TEST FOR TABLE OVERFLOW.	4F10747
GO FIND OUT WHICH TABLE OVERFLOWED.	4F10748
	4F10749
	4F10750
ENTRY SUM=TXL, BLOCK SUM=TXH.	4F10751
SKIP IF TABLE IS EMPTY.	4F10752
	4F10753
SKIP IF BLOCK IS NOT YET FULL.	4F10754
START NEW BLOCK CHECKSUM.	4F10755
CHANGE CHECKSUM ADDRESS.	4F10756
	4F10757
SET ENTRY ADDR = CHECKSUM ADDR +1.	4F10758
	4F10759
	4F10760
ADD NEW FLOCON TO	4F10761
CHECKSUM FOR THIS BLOCK.	4F10762
	4F10763
WRITE BLOCK CHECKSUM ON DRUM.	4F10764
	4F10765
	4F10766
WRITE NEW FLOCON ON DRUM.	4F10767
GO UPDATE FLOCON PARAMETER.	4F10768
FOR ALL TABLES EXCEPT FLOCON=	4F10769
(L)	4F10770
NEXT DRUM ENTRY ADDRESS.	4F10771
IF L = 1,	4F10772
(ARG1+L-1) WRITE NEW	4F10773
ENTRY ON DRUM.	4F10774
(ARG1+L-1)	4F10775
COMPUTE AND	4F10776
WRITE CHECKSUM FOR NEW ENTRY.	4F10777
UPDATE PERMANENT	4F10778
PARAMETERS FOR ENTRY	4F10779
JUST ADDED TO TABLE.	4F10780
IF TABLE WAS FLOCON,	4F10781
READJUST.	4F10782
N=N+1,TDA=TDA+(L+1) OR (L).	4F10783
(....IX-3)	4F10784
L(N)	4F10785
GET TAG AND EXIT.	4F10786
	4F10787
L(K*L),K=K.	4F10788
L(L)	4F10789
(ARG1+L)	4F10790
(BUFR OR CTABL)	4F10791
NOT FOUND.	4F10792
K*L = K*L-1.	4F10793
N = N-1 OR ITEM NOT IN TABLE.	4F10794
	4F10795
K = K-1.	4F10796
SAVE CURRENT VALUE OF N,	4F10797
AND GET NEW BLOCK.	4F10798
	4F10799
	4F10800

02234	-0	53400	2	02241	LXD	NTL,2		4F10801
02235	2	00000	2	02237	COMPR	TIX	COMPR+2,2,**	4F10802
02236	-0	63400	2	02362	SXD	FDA,2		4F10803
02237	-0	63400	2	02241	SXD	NTL,2		4F10804
02240	0	07400	4	02520	TSX	RDRX,4		4F10805
02241	1	00000	0	02216	NTL	TXI	NXBLK,0,**	4F10806
02242	2	00001	1	02221	YEA	TIX	TRY,1,1	4F10807
02243	-0	53400	2	02361	LXD	TDA,2		4F10808
02244	-0	63400	4	02245	SXD	YEA+3,4		4F10809
02245	2	00000	2	02247	TIX	OUT,2,**		4F10810
02246	0	53400	2	01406	LXA	L(0),2		4F10811
02247	-0	75400	2	00000	OUT	PXD ,2		4F10812
02250	0	77100	0	00022	ARS	18		4F10813
02251	-0	53400	2	02173	LXD	XR2,2		4F10814
02252	-0	53400	4	02215	LXD	XR4,4		4F10815
02253	-0	53400	1	02535	LXD	XR1,1		4F10816
02254	0	56000	0	02357	LDQ	MQ		4F10817
02255	0	02000	4	00001	TRA	1,4		4F10818
02256	-0	53400	4	02215	WHICH	LXD	XR4,4	4F10819
02257	0	50000	4	00000	CLA	0,4		4F10820
02260	-0	32000	0	01452	ANA	MASK2		4F10821
02261	0	40200	0	02274	SUB	CONX		4F10822
02262	0	53400	4	01417	LXA	L(9),4		4F10823
02263	0	40200	0	01413	COMPUT	SUB	L(5)	4F10824
02264	0	10000	0	02267	TZE	WHICHX		4F10825
02265	2	00001	4	02263	TIX	COMPUT,4,1		4F10826
02266	0	07400	4	03400	TSX	DIAG,4		4F10827
02267	-0	75400	4	00000	WHICHX	PXD ,4		4F10828
02270	0	76000	0	00006	COM			4F10829
02271	0	40000	0	01454	ADD	2E18		4F10830
02272	-0	73400	4	00000	PDX	,4		4F10831
02273	1	00000	0	03400	TXI	DIAG,0		4F10832
02274	0	00000	0	00412	CONX	PZE	FXCNIX-5	4F10833
				02357	BUFR	BES	50	4F10834
				02357	MQ	BSS	1	4F10835
				02360	NAR	BSS	1	4F10836
				02361	TDA	BSS	1	4F10837
				02362	FDA	BSS	1	4F10838
				02363	DBL	BSS	1	4F10839
				02364	DI	BSS	1	4F10840
				02365	TEMP	BSS	0	4F10841
				02365	DUMP	BSS	1	4F10842
								4F10843
								4F10844
								4F10845
								4F10846
								4F10847
								4F10848
								4F10849
								4F10850
								4F10851
								4F10852
								4F10853
								4F10854

02234 -0 53400 2 02241 LXD NTL,2  
 02235 2 00000 2 02237 COMPR TIX COMPR+2,2,\*\*  
 02236 -0 63400 2 02362 SXD FDA,2  
 02237 -0 63400 2 02241 SXD NTL,2  
 02240 0 07400 4 02520 TSX RDRX,4  
 02241 1 00000 0 02216 NTL TXI NXBLK,0,\*\*  
 02242 2 00001 1 02221 YEA TIX TRY,1,1  
 02243 -0 53400 2 02361 LXD TDA,2  
 02244 -0 63400 4 02245 SXD YEA+3,4  
 02245 2 00000 2 02247 TIX OUT,2,\*\*  
 02246 0 53400 2 01406 LXA L(0),2  
 02247 -0 75400 2 00000 OUT PXD ,2  
 02250 0 77100 0 00022 ARS 18  
 02251 -0 53400 2 02173 LXD XR2,2  
 02252 -0 53400 4 02215 LXD XR4,4  
 02253 -0 53400 1 02535 LXD XR1,1  
 02254 0 56000 0 02357 LDQ MQ  
 02255 0 02000 4 00001 TRA 1,4  
 02256 -0 53400 4 02215 WHICH LXD XR4,4  
 02257 0 50000 4 00000 CLA 0,4  
 02260 -0 32000 0 01452 ANA MASK2  
 02261 0 40200 0 02274 SUB CONX  
 02262 0 53400 4 01417 LXA L(9),4  
 02263 0 40200 0 01413 COMPUT SUB L(5)  
 02264 0 10000 0 02267 TZE WHICHX  
 02265 2 00001 4 02263 TIX COMPUT,4,1  
 02266 0 07400 4 03400 TSX DIAG,4  
 02267 -0 75400 4 00000 WHICHX PXD ,4  
 02270 0 76000 0 00006 COM  
 02271 0 40000 0 01454 ADD 2E18  
 02272 -0 73400 4 00000 PDX ,4  
 02273 1 00000 0 03400 TXI DIAG,0  
 02274 0 00000 0 00412 CONX PZE FXCNIX-5  
 02357 BUFR BES 50  
 02357 MQ BSS 1  
 02360 NAR BSS 1  
 02361 TDA BSS 1  
 02362 FDA BSS 1  
 02363 DBL BSS 1  
 02364 DI BSS 1  
 02365 TEMP BSS 0  
 02365 DUMP BSS 1  
 END OF PROGRAM DRTABS.  
 \*\*\*\*\*  
 GETIFN,4/ CALLERS=C0100,C0200,C1000,C1100,C1600,C3200.  
 GETIFN PLACES THE INTERNAL FORMULA NUMBER IN AC AND IN 1C.  
 02366 -0 53400 1 00030 GETIFN LXD EIFNO,1  
 02367 -0 75400 1 00000 PXD ,1  
 02370 0 60100 0 01105 STO 1C  
 02371 0 02000 4 00001 TRA 1,4  
 END OF PROGRAM GETIFN.  
 \*\*\*\*\*

```

                                JIF(GIF),4/ CALLERS=RDC,EFT,LPR,SPC,CMA,EMK,INPUT(OUTPUT), 4F10855
                                VRA(VRD),C3200. 4F10856
                                JIF = ENTRY POINT USED BY RDC,LPR,SPC,CMA,EMK,VRA(VRD),C3200. 4F10858
02372 -0 50000 0 00030 JIF CAL EIFNO INCREASE THE 4F10859
02373 0 40000 0 01454 ADD D1 INTERNAL FORMULA NUMBER 4F10860
02374 0 62200 0 00030 STD EIFNO BY 1. 4F10861
                                GIF = ENTRY POINT USED BY EFT,INPUT(OUTPUT). 4F10862
02375 -0 50000 0 00030 GIF CAL EIFNO PICKUP IFN. 4F10863
02376 -0 32000 0 01507 ANA 1BAR CLEAR SL, AND 4F10864
02377 0 60200 0 01367 L(SL) SLW SL PLACE IFN IN THE DECREMENTS 4F10865
02400 0 62200 0 01371 L(TL) STD TL OF SL AND TL. 4F10866
02401 0 02000 4 00001 TRA 1,4 * EXIT TO CALLER. 4F10867
                                END OF PROGRAM JIF(GIF). 4F10868
                                * * * * * 4F10869
                                MTR000/ MONITOR ROUTINE FOR CALLING STATES FROM DRUM. 4F10871
                                STATEA= ENTRY POINT FOR STATE A. 4F10872
D 02402 0 53400 4 01412 STATEA LXA L(4),4 SET C(XR4) = 4, THEN 4F10873
02403 1 00000 0 02411 TXI MTR1,0 GO GET PARAMETERS. 4F10874
                                STATEB= ENTRY POINT FOR STATE B. 4F10875
D 02404 0 53400 4 01410 STATEB LXA L(2),4 SET C(XR4) = 2, THEN 4F10876
02405 1 00000 0 02411 TXI MTR1,0 GO GET PARAMETERS. 4F10877
                                STATEC= ENTRY POINT FOR STATE C. 4F10878
02406 0 53400 4 01407 STATEC LXA L(1),4 SET C(XR4) = 1, THEN 4F10879
02407 1 00000 0 02411 MTRCSL TXI MTR1,0,** GO GET PARAMETERS. 4F10880
                                STATED= ENTRY POINT FOR STATE D. 4F10881
02410 0 53400 4 01411 STATED LXA L(3),4 SET C(XR4) = 3, THEN 4F10882
02411 0 50000 4 02437 MTR1 CLA ZETA+4,4 OBTAIN THE NUMBER OF WORDS IN THE 4F10883
02412 0 62200 0 02407 STD MTRCSL CURRENT STATE, AND SAVE. 4F10884
02413 0 77100 0 00022 ARS 18 ADD THE NUMBER OF WORDS IN THE 4F10885
02414 0 40000 0 02430 ADD MTR3 CURRENT STATE TO THE MEMORY ORIGIN 4F10886
02415 0 62100 0 02425 STA MTR2 TO SET ADDRESS OF COPY LOOP. 4F10887
02416 0 53400 1 01413 LXA DRMERC,1 SET FOR FIVE ATTEMPTS. 4F10888
02417 0 76200 4 00305 MTR15 RDR 5,4 READ SELECT CURRENT LOGICAL DRUM. 4F10889
02420 -0 53400 2 02407 LXD MTRCSL,2 LENGTH OF CURRENT STATE TO XR2. 4F10890
02421 0 46000 4 02437 LDA ZETA+4,4 THEN COPY 4F10891
02422 -0 75400 0 00000 PXD ,0 CURRENT STATE 4F10892
02423 -0 70000 0 01103 CAD DRCKSM FROM DRUM 4F10893
02424 0 76000 0 00006 COM INTO MEMORY 4F10894
02425 -0 70000 2 00000 MTR2 CAD **,2 WHILE COMPUTING 4F10895
02426 2 00001 2 02425 TIX MTR2,2,1 LOGICAL CHECKSUM. 4F10896
02427 0 76000 0 00006 COM IF THIS EQUALS DRUM CHECKSUM, 4F10897
02430 0 10000 0 03440 MTR3 TZE MEMORG * THEN ENTER CURRENT STATE. 4F10898
02431 2 00001 1 02417 TIX MTR15,1,1 CHECKSUM FAILED, TRY UP TO 5 TIMES. 4F10899
02432 1 75346 4 03400 MTRERR TXI DIAG,4,-MTRERR * GO TO DIAGNOSTIC AFTER 5 FAILURES. 4F10900
                                4F10901
02433 0 02663 0 00000 ZETA PZE DEL(A),,ENDADR-ORGA 4F10902
02434 0 01607 0 01322 PZE DEL(D),,ENDDDR-ORGD 4F10903
02435 0 01302 0 02210 PZE DEL(B),,ENDBDR-ORGB 4F10904
02436 0 01330 0 02373 PZE DEL(C),,ENDCDR-ORGC 4F10905
                                END OF PROGRAM MTR000. 4F10906
                                * * * * * 4F10907
                                4F10908

```

					RA000,4/ CALLERS=LPR,ARITH.		4F10909
					RA000 COMPUTES RELATIVE ADDRESS.		4F10910
02437	-0	63400	4	01100	RA000	SXD RAXR4,4	4F10911
02440	0	60000	0	01147		STZ EPS	4F10912
02441	0	50000	0	01125		CLA DIMSAV	4F10913
02442	0	73400	4	01132	ED2	PAX E+4,4	4F10914
02443	-3	00002	4	02445		TXL ED1,4,2	4F10915
02444	0	40000	0	01407		ADD L(1)	4F10916
02445	0	40100	0	02442	ED1	ADM ED2	4F10917
02446	0	62100	0	02447		STA ED3	4F10918
02447	0	50000	4	00000	ED3	CLA **,4	4F10919
02450	0	56000	0	01454		LDQ D1	4F10920
02451	0	10000	0	02454		TZE ED4	4F10921
02452	-0	60000	0	01147		STQ EPS	4F10922
02453	0	56000	0	01406		LDQ L(0)	4F10923
02454	-0	60000	4	01147	ED4	STQ EPS,4	4F10924
02455	2	00001	4	02447		TIIX ED3,4,1	4F10925
02456	0	50000	0	01454		CLA D1	4F10926
02457	0	53400	4	01125		LXA DIMSAV,4	4F10927
02460	-3	00001	4	02511		TXL 1D1,4,1	4F10928
02461	0	56000	0	01141		LDQ E+11	4F10929
02462	0	60000	0	01141		STZ E+11	4F10930
02463	-0	62000	0	01141		SLQ E+11	4F10931
02464	-0	76300	0	00022		LGL 18	4F10932
02465	-0	60000	0	01361		STQ N2	4F10933
02466	0	56000	0	01134		LDQ E+6	4F10934
02467	0	50000	0	01146		CLA EPS-1	4F10935
02470	-3	00002	4	02503		TXL 2D1,4,2	4F10936
02471	0	40200	0	01142		SUB E+12	4F10937
02472	0	60100	0	01351		STO GTAG	4F10938
02473	0	56000	0	01136		LDQ E+8	4F10939
02474	0	60000	0	01136		STZ E+8	4F10940
02475	-0	62000	0	01136		SLQ E+8	4F10941
02476	-0	76300	0	00022		LGL 18	4F10942
02477	0	20000	0	01351		MPY GTAG	4F10943
02500	0	76700	0	00021		ALS 17	4F10944
02501	0	40000	0	01145		ADD EPS-2	4F10945
02502	0	56000	0	01136		LDQ E+8	4F10946
02503	0	40200	0	01361	2D1	SUB N2	4F10947
02504	0	60100	0	01351		STO GTAG	4F10948
02505	0	20000	0	01351		MPY GTAG	4F10949
02506	0	76700	0	00021		ALS 17	4F10950
02507	0	40000	4	01147		ADD EPS,4	4F10951
02510	0	40000	0	01147		ADD EPS	4F10952
02511	0	40200	0	01141	1D1	SUB E+11	4F10953
02512	0	60100	0	01351		STO GTAG	4F10954
02513	-0	50000	0	01126		CAL E	4F10955
02514	0	77100	0	00030		ARS 24	4F10956
02515	0	62100	0	01351		STA GTAG	4F10957
02516	-0	53400	4	01100		LXD RAXR4,4	4F10958
02517	0	02000	4	00001		TRA 1,4	4F10959
						END OF PROGRAM RA000.	4F10960
						*****	4F10961
							4F10962



					RDRX,4/ CALLS=DIAG. CALLER=DRTABS.	4F10963
					RDRX READS A BLOCK OF DRUM ENTRIES INTO 50 WORD BUFR.	4F10964
	02520	0	53400	1 01413	RDRX LXA DRMERC,1	4F10965
	02521	-0	53400	2 02364	REP LXD DI,2	4F10966
	02522	3	00000	2 02524	TXH BIAS-2,2,0	4F10967
	02523	0	07400	4 03400	TSX DIAG,4	4F10968
	02524	0	76200	2 00305	RDR 5,2	4F10969
	02525	-0	53400	2 02362	LXD FDA,2	4F10970
	02526	-0	75400	0 02554	BIAS PXD ETSUM,0	4F10971
	02527	0	46000	0 02362	LDA FDA	4F10972
TD	02530	-3	00000	0 00000	JUMP1 TXL **	4F10973
	02531	-0	70000	0 02365	CAD DUMP	4F10974
	02532	0	76000	0 00006	COM	4F10975
	02533	-0	70000	2 02357	LBUF CAD BUFR,2	4F10976
	02534	2	00001	2 02533	TXL LBUF,2,1	4F10977
	02535	1	00000	0 02562	XR1 TXI PROVE,0,**	4F10978
	02536	0	70000	2 02357	CPY BUFR,2	4F10979
	02537	-2	00001	2 02564	TNX ERR,2,1	4F10980
	02540	0	70000	2 02357	CPY BUFR,2	4F10981
	02541	-2	00001	2 02564	TNX ERR,2,1	4F10982
	02542	0	70000	2 02357	CPY BUFR,2	4F10983
	02543	-2	00001	2 02564	TNX ERR,2,1	4F10984
	02544	0	70000	2 02357	CPY BUFR,2	4F10985
	02545	-2	00001	2 02564	TNX ERR,2,1	4F10986
	02546	0	70000	2 02357	CPY BUFR,2	4F10987
	02547	-2	00001	2 02564	TNX ERR,2,1	4F10988
	02550	0	70000	2 02357	CPY BUFR,2	4F10989
	02551	-2	00001	2 02564	TNX ERR,2,1	4F10990
	02552	0	70000	2 02357	CPY BUFR,2	4F10991
	02553	0	76100	0 00000	NOP	4F10992
	02554	-0	70000	0 02365	ETSUM CAD DUMP	4F10993
	02555	2	00001	2 00000	JUMP2 TXI **,2,1	4F10994
	02556	-0	53400	2 02362	RDRXCR LXD FDA,2	4F10995
	02557	0	76000	0 00006	COM	4F10996
	02560	0	36100	2 02357	ACL BUFR,2	4F10997
	02561	2	00001	2 02560	TXI RDRXCR+2,2,1	4F10998
	02562	0	76000	0 00006	PROVE COM	4F10999
	02563	0	10000	4 00001	TZE 1,4	4F11000
	02564	2	00001	1 02521	ERR TXI REP,1,1	4F11001
	02565	0	07400	4 03400	TSX DIAG,4	4F11002
					END OF PROGRAM RDRX.	4F11003
					*****	4F11004
						4F11005
					SR6DC1,1/ CALLS=DIAG. CALLERS=CA000,SS000.	4F11006
					SR6DC1 CONVERTS UP TO 6 BCD DIGITS TO THEIR BINARY EQUIV.	4F11007
	02566	-0	63400	2 02574	SR6DC1 SXD SR6XR2,2	4F11008
	02567	0	53400	2 01414	LXA L(6),2	4F11009
	02570	0	60000	0 01101	STZ SR6WRK	4F11010
	02571	-0	75400	0 00000	SR6DC2 PXD ,0	4F11011
	02572	-0	76300	0 00006	LGL 6	4F11012
	02573	0	34000	0 01430	CAS ABLANK	4F11013
	02574	1	00000	0 02576	SR6XR2 TXI SR6DC3,0,**	4F11014
	02575	1	77777	0 02610	ENDWRD TXI SR6DC4,0,-1	4F11015
	02576	0	34000	0 01417	SR6DC3 CAS L(9)	4F11016
					SAVE THE C(XR2), AND	
					SET TO COUNT 6 CHARACTERS.	
					INITIALIZE OUTPUT CELL TO 0.	
					OBTAIN NEXT CHARACTER	
					IN AC AND	
					TEST FOR BLANK.	
					IF NOT BLANK,	
					(DECR= END OF PROBLEM INDICATOR)	
					TEST FOR NUMERIC.	

02577	0	07400	4	03400		TSX	DIAG,4	* IF NON-NUMERIC - GO TO DIAGNOSTIC.	4F11017
02600	0	76100	0	00000	NOP	NOP		IF NUMERIC,	4F11018
02601	0	60100	0	01102		STO	SR6WRK+1	SAVE DIGIT, AND	4F11019
02602	0	50000	0	01101		CLA	SR6WRK	MULTIPLY PREVIOUS PARTIAL	4F11020
02603	0	76700	0	00002		ALS	2	RESULT BY 10,	4F11021
02604	0	40000	0	01101		ADD	SR6WRK	AND ADD IN	4F11022
02605	0	76700	0	00001		ALS	1	CURRENT DIGIT, SAVING	4F11023
02606	0	40000	0	01102		ADD	SR6WRK+1	NEW PARTIAL RESULT.	4F11024
02607	0	60100	0	01101		STO	SR6WRK	THEN ADJUST COUNT, AND	4F11025
02610	2	00001	2	02571	SR6DC4	TIX	SR6DC2,2,1	WHEN 6 CHARS HAVE BEEN TREATED,	4F11026
02611	0	50000	0	01101		CLA	SR6WRK	LEAVE OUTPUT IN AC,	4F11027
02612	-0	53400	2	02574		LXD	SR6XR2,2	RESTORE THE C(XR2), AND	4F11028
02613	0	02000	1	00001	TRA	TRA	1,1	* EXIT TO MAIN ROUTINE.	4F11029
							END OF PROGRAM SR6DC1.		4F11030
							*****		*4F11031
							SS000,4/ CALLS=C0190,DIAG,SR6DC1,D1M,SR,DRTABS,TET00,TESTFX.		4F11032
							CALLERS=ARITH,LPR,C0200.		4F11033
							SS000 SCANS SUBSCRIPT COMBINATIONS AND MAKES TABLE ENTRIES.		4F11034
02614	-0	63400	2	02731	SS000	SXD	SXR2,2	SAVE C(XR2),	4F11035
02615	-0	63400	1	02730		SXD	SXR1,1	SAVE C(XR1),	4F11036
02616	-0	63400	4	02732		SXD	SXR4,4	SAVE C(XR4), AND	4F11037
02617	0	60000	0	01100		STZ	DIMCTR	SET DIMCTR = 0.	4F11038
02620	0	53400	4	01414		LXA	L(6),4	INITIALIZE	4F11039
02621	-0	63400	4	02726		SXD	SBS2,4	FOR EACH SUBSCRIPT MEMBER.	4F11040
02622	-0	50000	0	00422		CAL	TXHOP	PICK UP TXH OP, AND	4F11041
02623	0	63000	0	02776		STP	SBC6	SET OP	4F11042
02624	0	63000	0	02777		STP	SBC8	SWITCHES.	4F11043
02625	-0	50000	0	00415		CAL	TXLOP	PICK UP TXL OP, AND	4F11044
02626	0	63000	0	03014		STP	SBC4	SET OP SWITCH.	4F11045
02627	0	53400	3	01414	SS001	LXA	L(6),3	SET FOR 6 CHARACTERS OF MULTIPLIER.	4F11046
02630	0	60000	0	01370		STZ	SYMBOL	CLEAR WORKING STORAGE.	4F11047
02631	0	07400	4	01707		TSX	C0190,4	* GET FIRST NON BLANK CHAR IN THE AC.	4F11048
02632	0	34000	0	01417		CAS	L(9)	COMPARE IT WITH 9.	4F11049
D 02633	1	00000	0	02704		TXI	SS0045,0	RETURN TO EXPLICIT CODING.	4F11050
02634	0	76100	0	00000		NOP		IF NUMERIC,	4F11051
02635	0	60100	0	01331		STO	FIRSTC	SAVE RIGHT-ADJUSTED DIGIT, AND	4F11052
02636	0	76700	2	00044	SS0012	ALS	36,2	LEFT-ADJUST DIGIT TO	4F11053
02637	-0	60200	0	01370		ORS	SYMBOL	BUILD SYMBOL.	4F11054
02640	1	00006	2	02641		TXI	SS0013,2,6	UPDATE SHIFT DECREMENT, AND	4F11055
02641	1	77777	1	02642	SS0013	TXI	SS0014,1,-1	UPDATE COUNT OF CHARS COLLECTED.	4F11056
02642	0	07400	4	01707	SS0014	TSX	C0190,4	* GET NEXT NB CHARACTER IN THE AC.	4F11057
02643	0	53400	4	02652		LXA	CTESTX,4	SET XR4 = NO. OF PUNCTUATION MARKS.	4F11058
02644	0	34000	4	01406	SS0015	CAS	CTEST,4	TEST THIS CHARACTER AGAINST	4F11059
D 02645	1	00000	0	02647		TXI	SS0016,0	ALL PUNCTUATION.	4F11060
02646	0	02000	4	02733		TRA	SUBTR,4	IF EQUALITY IS FOUND, TRANSFER.	4F11061
02647	2	00001	4	02644	SS0016	TIX	SS0015,4,1	IF NOT FOUND TO BE PUNCTUATION,	4F11062
02650	0	34000	0	01417		CAS	L(9)	TEST FOR NUMERIC.	4F11063
D 02651	1	00000	0	02655		TXI	SS0017,0	AND IF	4F11064
02652	0	76100	0	00012	CTESTX	NOP	CTEST-ENDMK	FOUND TO BE NUMERIC,	4F11065
02653	3	00000	1	02636		TXH	SS0012,1,0	CONTINUE BUILDING SYMBOL. BUT IF	4F11066
D 02654	1	00000	0	02720		TXI	STOP49,0	SEVENTH CHAR, GO TO DIAGNOSTIC.	4F11067
02655	0	07400	1	03242	SS0017	TSX	TESTFX+1,1	* GO TEST FOR FIXED POINT VARIABLE.	4F11068
02656	0	07400	4	03400		TSX	DIAG,4	* NOT FIXED POINT --GO TO DIAGNOSTIC.	4F11069

02657 -0 76300 0 00036 LGL 30  
 02660 0 60200 0 01365 SLW RESIDU  
 02661 -0 53400 4 01724 LXD CHCTR,4  
 02662 1 00001 4 02663 TXI SS0018,4,1  
 02663 -0 63400 4 01724 SS0018 SXD CHCTR,4  
 02664 0 50200 0 02776 SBX CLS SBC6  
 02665 -0 12000 0 02667 TMI SBX1  
 02666 0 07400 4 03400 TSX DIAG,4  
 02667 0 60100 0 02776 SBX1 STO SBC6  
 02670 0 50000 0 01331 CLA FIRSTC  
 02671 0 40200 0 01373 SUB L(10)  
 02672 -0 12000 0 02674 TMI SBX2  
 02673 0 07400 4 03400 TSX DIAG,4  
 02674 -0 50000 0 01370 SBX2 CAL SYMBOL  
 02675 0 77100 2 00052 ARS 42,2  
 02676 -0 53400 4 02726 LXD SBS2,4  
 02677 0 60200 4 01137 SLW E+9,4  
 02700 0 60000 4 01145 STZ E+15,4  
 02701 0 53400 3 01414 SS003 LXA L(6),3  
 02702 0 60000 0 01370 STZ SYMBOL  
 02703 0 07400 4 01707 SS004 TSX C0190,4  
 02704 0 53400 4 02652 SS0045 LXA CTEST,4  
 02705 0 34000 4 01406 SS005 CAS CTEST,4  
 02706 1 00000 0 02710 TXI SS006,0  
 02707 0 02000 4 02733 TRA SUBTR,4  
 02710 2 00001 4 02705 SS006 TIX SS005,4,1  
 02711 -3 00005 1 02713 TXL SS008,1,5  
 02712 0 60100 0 01331 STO FIRSTC  
 02713 0 76700 2 00044 SS008 ALS 36,2  
 02714 -3 00000 1 02720 SS009 TXL STOP49,1,0  
 02715 -0 60200 0 01370 ORS SYMBOL  
 02716 1 00006 2 02717 TXI SS007,2,6  
 02717 1 77777 1 02703 SS007 TXI SS004,1,-1  
 02720 0 07400 4 03400 STOP49 TSX DIAG,4  
 SUBTR/ CONTROL TRANSFERS  
 D 02721 1 00000 0 02722 TXI ISC,0  
 02722 0 07400 4 03400 ISC TSX DIAG,4  
 D 02723 1 00000 0 02772 TXI SBC,0  
 D 02724 1 00000 0 02770 TXI SBR,0  
 D 02725 1 00000 0 02722 TXI ISC,0  
 D 02726 1 00000 0 02733 SBS2 TXI SBM,0,\*\*  
 02727 1 00000 0 02722 TXI ISC,0  
 D 02730 1 00000 0 02722 SXR1 TXI ISC,0,\*\*  
 02731 1 00000 0 02734 SXR2 TXI SBP,0,\*\*  
 02732 1 00000 0 02664 SXR4 TXI SBX,0,\*\*  
 02733 02733 SUBTR BSS 0  
 02733 -0 76000 0 00003 SBM SSM  
 02734 0 76000 0 00000 SBP CLM  
 02735 -0 53400 4 02726 LXD SBS2,4  
 02736 0 60100 4 01145 STO E+15,4  
 02737 0 50200 0 02777 CLS SBC8  
 02740 -0 12000 0 02742 TMI SBP1  
 02741 0 07400 4 03400 TSX DIAG,4  
 02742 0 60100 0 02777 SBP1 STO SBC8

RESTORE FIXED POINT VARIABLE 4F11071  
 TO RESIDU, AND 4F11072  
 RESET CHARACTER COUNTER 4F11073  
 TO BEGIN PROCESSING 4F11074  
 SUBSCRIPT MULTIPLIER. 4F11075  
 TEST FOR 4F11076  
 PREVIOUS MULTIPLIER. 4F11077  
 \* DOUBLE MULTIPLIER FOR SUBSCRIPT. 4F11078  
 RESET MULTIPLIER SWITCH. 4F11079  
 TEST 4F11080  
 MULTIPLIER 4F11081  
 FOR CONSTANT. 4F11082  
 \* SUBS-MULTIPLIER NOT A CONSTANT. 4F11083  
 ADJUST MULTIPLIER 4F11084  
 TO LOW ORDER POSITION. 4F11085  
 GET STORING TAG, 4F11086  
 AND STORE MULTIPLIER. 4F11087  
 SET ADDEND = 0. 4F11088  
 SET FOR 6 CHARS OF VARIABLE/ADDEND. 4F11089  
 CLEAR WORKING STORAGE. 4F11090  
 \* GO GET NEXT NB CHARACTER IN THE AC. 4F11091  
 COMPARE CHARACTER 4F11092  
 TO ALL 4F11093  
 PUNCTUATION. 4F11094  
 IF EQUALITY IS FOUND, TRANSFER. 4F11095  
 IF NOT FOUND TO BE PUNCTUATION, 4F11096  
 IF 1ST CHARACTER OF VARIABLE OR 4F11097  
 ADDEND, SAVE FOR LATER TESTS. 4F11098  
 POSITION EACH CHARACTER. BUT 4F11099  
 \* ON 7TH CHARACTER, GO TO STOP. 4F11100  
 BUILD SYMBOL. 4F11101  
 UPDATE EFFECTIVE ADDRESS OF SHIFT. 4F11102  
 UPDATE FOR ANOTHER CHAR COLLECTED. 4F11103  
 \* GO TO DIAGNOSTIC ON 7TH CHARACTER. 4F11104  
 FOR SUBSCRIPT SCAN= 4F11105  
 EMK (ILLEGAL IN LIST SUBSCRIPT). 4F11106  
 \* ( (ILLEGAL IN LIST SUBSCRIPT). 4F11107  
 , 4F11108  
 ) 4F11109  
 = (ILLEGAL IN LIST SUBSCRIPT). 4F11110  
 - ,SUBSCRIPT ELEMENT COUNTER. 4F11111  
 / (ILLEGAL IN LIST SUBSCRIPT). 4F11112  
 . (ILLEGAL IN LIST SUBSCRIPT). 4F11113  
 + 4F11114  
 \* 4F11115  
 INDEXING ADDRESS FOR ABOVE LIST. 4F11116  
 MINUS ADDEND. 4F11117  
 PLUS ADDEND. 4F11118  
 GET STORING TAG, AND 4F11119  
 STORE SIGN OF ADDEND. 4F11120  
 TEST SWITCH 4F11121  
 FOR PREVIOUS ADDEND. 4F11122  
 \* DOUBLE ADDEND FOR SUBSCRIPT. 4F11123  
 RESET ADDEND SWITCH. 4F11124

	02743	0	07400	1	03241		TSX	TESTFX,1
	02744	0	07400	4	03400		TSX	DIAG,4
	02745	-0	53400	4	02726		LXD	SBS2,4
	02746	0	50200	0	02776		CLS	SBC6
	02747	0	12000	0	02754		TPL	SBP2
	02750	0	50000	0	01407		CLA	L(1)
D	02751	0	60100	4	01137		STO	E+9,4
	02752	1	00000	0	02755		TXI	SBP4,0
	02753	0	50200	0	02776	SBC1	CLS	SBC6
	02754	0	60100	0	02776	SBP2	STO	SBC6
	02755	-0	50000	0	01370	SBP4	CAL	SYMBOL
	02756	3	00044	2	02762		TXH	SBP41,2,36
	02757	-0	50000	0	01430		CAL	BLANK
	02760	0	76700	2	00044		ALS	36,2
	02761	-0	50100	0	01370		ORA	SYMBOL
	02762	0	60200	4	01140	SBP41	SLW	E+10,4
	02763	0	07400	1	03241		TSX	TESTFX,1
	02764	0	07400	4	03400		TSX	DIAG,4
	02765	0	50000	0	02777		CLA	SBC8
	02766	-0	12000	0	02701		TMI	SS003
D	02767	1	00000	0	03012		TXI	SBC7,0
	02770	0	50200	0	03014	SBR	CLS	SBC4
	02771	0	60100	0	03014		STO	SBC4
	02772	-0	50000	0	01100	SBC	CAL	DIMCTR
	02773	0	40000	0	01407		ADD	L(1)
	02774	0	62100	0	01100		STA	DIMCTR
	02775	-0	53400	4	02726		LXD	SBS2,4
D	02776	3	00000	0	02753	SBC6	TXH	SBC1,0
D	02777	3	00000	0	03016	SBC8	TXH	SBC2,0
	03000	0	50000	0	01407		CLA	L(1)
	03001	0	60100	4	01137		STO	E+9,4
	03002	0	60000	4	01145		STZ	E+15,4
	03003	0	50000	0	01331		CLA	FIRSTC
	03004	0	40200	0	01373		SUB	L(10)
	03005	0	12000	0	02755		TPL	SBP4
	03006	0	60000	4	01140		STZ	E+10,4
	03007	-0	50000	0	01370	SBC9	CAL	SYMBOL
	03010	0	77100	2	00052		ARS	42,2
	03011	-0	60200	4	01145		ORS	E+15,4
	03012	-2	00002	4	03024	SBC7	TNX	SBC3,4,2
	03013	-0	63400	4	02726		SXD	SBS2,4
D	03014	-3	00000	0	02627	SBC4	TXL	SS001,0
D	03015	1	00000	0	03030		TXI	SA000,0
	03016	0	50200	0	02777	SBC2	CLS	SBC8
	03017	0	60100	0	02777		STO	SBC8
	03020	0	50200	0	01373		CLS	L(10)
	03021	0	40000	0	01331		ADD	FIRSTC
	03022	-0	12000	0	03007		TMI	SBC9
	03023	0	07400	4	03400		TSX	DIAG,4
	03024	0	50200	0	03014	SBC3	CLS	SBC4
	03025	-0	12000	0	03030		TMI	SA000
	03026	0	07400	4	03400		TSX	DIAG,4
							CSA000=	ENTRY POINT USED BY C0200 (GO TO ROUTINE).
	03027	-0	63400	4	02732	CSA000	SXD	SXR4,4

* GO TO TEST FOR FIXED POINT.	4F11125
* NOT FIXED POINT --GO TO DIAGNOSTIC.	4F11126
GET STORING TAG, AND	4F11127
TEST SWITCH	4F11128
FOR PREVIOUS MULTIPLIER.	4F11129
IF NONE,	4F11130
SET MULTIPLIER	4F11131
TO 1, AND CONTINUE.	4F11132
RESET MULTIPLIER	4F11133
OP SWITCH.	4F11134
IF VARIABLE SUBSCRIPT,	4F11135
ADD A BLANK	4F11136
IF LESS	4F11137
THAN 6	4F11138
CHARACTERS, AND	4F11139
PLACE IN E-REGION.	4F11140
* GO TO TEST FOR FIXED POINT.	4F11141
* NOT FIXED POINT --GO TO DIAGNOSTIC.	4F11142
IF THERE IS AN ADDEND,	4F11143
GO COLLECT, OTHERWISE	4F11144
GO UPDATE STORING TAG.	4F11145
SET SWITCH	4F11146
FOR CLOSING PARENTHESIS.	4F11147
UPDATE	4F11148
DIMENSION COUNTER	4F11149
BY 1.	4F11150
GET STORING TAG.	4F11151
SWITCH-IF NO MULTIPLIER, AND	4F11152
SWITCH-IF NO ADDEND, THEN	4F11153
SET	4F11154
MULTIPLIER = 1.	4F11155
SET ADDEND = 0.	4F11156
TEST FOR	4F11157
CONSTANT OR VARIABLE.	4F11158
IF CONSTANT, THEN	4F11159
SET VARIABLE = 0.	4F11160
ADJUST	4F11161
CONSTANT	4F11162
TO LOW ORDER POSITION.	4F11163
UPDATE STORING TAG	4F11164
BY -2, AND SAVE.	4F11165
SWITCH-REPEAT FOR NEXT SUB-COMB.	4F11166
GO MAKE TABLE ENTRIES AND GET TAG.	4F11167
RESET ADDEND	4F11168
OP SWITCH.	4F11169
TEST	4F11170
ADDEND	4F11171
FOR CONSTANT.	4F11172
* SUBSCRIPT ADDEND NOT A CONSTANT.	4F11173
AFTER SCANNING 3 SUBSCRIPTS,	4F11174
GO MAKE TABLE ENTRIES AND GET TAG.	4F11175
* GO TO DIAG - NO ) AFTER 3RD SUBS.	4F11176
SAVE C(XR4) FOR RETURN TO C0200.	4F11177
	4F11178

D  
D

03030	0	50000	0	01100	SA000	CLA DIMCTR
03031	0	60100	0	01125		STO DIMSAV
03032	0	76700	0	00041		ALS 33
03033	0	60100	0	01126		STO E
03034	0	50000	0	01141		CLA E+11
03035	0	60100	0	01142		STO E+12
03036	0	50000	0	01137		CLA E+9
03037	0	60100	0	01141		STO E+11
03040	0	50000	0	01410		CLA L(2)
03041	0	34000	0	01100		CAS DIMCTR
03042	1	00000	0	03174		TXI 1D0000,0
03043	1	00000	0	03131		TXI 2D0000,0
03044	0	53400	4	01414	3D0000	LXA L(6),4
03045	0	56000	4	01137	3D0001	LDQ E+9,4
03046	0	07400	1	02566		TSX SR6DC1,1
03047	0	60100	4	01137		STO E+9,4
03050	2	00002	4	03045		TIX 3D0001,4,2
03051	0	53400	4	01411		LXA L(3),4
03052	0	50000	4	01144	3D0002	CLA E+14,4
03053	0	60200	0	01347		SLW G
03054	0	56000	0	01347		LDQ G
03055	0	07400	1	02566		TSX SR6DC1,1
03056	0	56000	4	01144		LDQ E+14,4
03057	0	16200	0	03061		TGP 3D0040
03060	-0	50100	0	01453		ORA 2E17
03061	0	60100	4	01144	3D0040	STO E+14,4
03062	2	00001	4	03052		TIX 3D0002,4,1
03063	0	07400	4	02005		TSX DIM3SR,4
03064	0	07400	4	03400		TSX DIAG,4
03065	0	50000	0	01131	3D0060	CLA E+3
03066	0	76700	0	00022		ALS 18
03067	0	40000	0	01133		ADD E+5
03070	0	60100	0	01131		STO E+3
03071	0	50000	0	01132		CLA E+4
03072	0	60100	0	01133		STO E+5
03073	0	50000	0	01135		CLA E+7
03074	0	76700	0	00022		ALS 18
03075	0	60100	0	01132		STO E+4
03076	0	50000	0	01136		CLA E+8
03077	0	60100	0	01135		STO E+7
03100	0	50000	0	01101		CLA D12
03101	0	60100	0	01136		STO E+8
03102	-0	50000	0	01141		CAL E+11
03103	0	76700	0	00022		ALS 18
03104	-0	50100	0	01142		ORA E+12
03105	0	60200	0	01141		SLW E+11
03106	-0	50000	0	01143		CAL E+13
03107	0	76700	0	00022		ALS 18
03110	0	60200	0	01142		SLW E+12
03111	0	07400	4	00443		TSX TAU3IX,4
03112	0	76700	0	00030		ALS 24
03113	-0	60200	0	01126		ORS E
03114	-0	50000	0	01135		CAL E+7
03115	-0	50100	0	01134		ORA E+6

SAVE	4F11179
THE CONTENTS OF DIMCTR.	4F11180
POSITION AND	4F11181
STORE I TAG.	4F11182
MOVE SUBSCRIPT ADDENDS	4F11183
INTO POSITION	4F11184
FOR FOLLOWING	4F11185
PROGRAM.	4F11186
EXAMINE DIMCTR	4F11187
TO DETERMINE	4F11188
WHETHER DIMENSION OF	4F11189
VARIABLE IS 1, 2, OR 3.	4F11190
PREPARE TO PICK UP 3 COEFFICIENTS.	4F11191
CONVERT THEM FROM BCD TO BINARY	4F11192
* IN E+3,5,7, AND	4F11193
STORE BACK IN E+3,5,7.	4F11194
WHEN DONE, PREPARE	4F11195
TO PICK UP 3 ADDENDS.	4F11196
CONVERT ADDENDS (BCD TO BINARY)=	4F11197
STRIP OFF	4F11198
SIGN,	4F11199
* CONVERT ADDENDS IN E+11,12,13,	4F11200
PUT SIGN IN S-BIT OF MQ, AND	4F11201
IF PLUS--SKIP NEXT,	4F11202
IF MINUS--OR SIGN INTO BIT 18,	4F11203
AND STORE BACK INTO E+11,12,13.	4F11204
WHEN DONE,	4F11205
* GO SEARCH DIM3 TABLE.	4F11206
* --ERROR...NOT ON DRUM.	4F11207
REFORMATIZE E-STRING =	4F11208
PACK TOGETHER COEFFICIENTS 1 AND 2	4F11209
AND STORE THEM	4F11210
IN E+3.	4F11211
MOVE SUBSCRIPT 1	4F11212
TO E+5.	4F11213
AND MOVE	4F11214
COEFFICIENT 3	4F11215
INTO E+4.	4F11216
MOVE SUBSCRIPT 3 INTO E+7,	4F11217
NEXT TO SUBSCRIPT 2 IN E+6.	4F11218
MOVE DIMENSIONS 1 AND 2	4F11219
INTO E+8.	4F11220
PACK TOGETHER	4F11221
ADDENDS 1 AND 2	4F11222
AND	4F11223
STORE THEM IN E+11.	4F11224
MOVE	4F11225
ADDEND 3	4F11226
INTO E+12.	4F11227
* GO SEARCH TAU3 TABLE.	4F11228
POSITION TAU3 TAG, AND	4F11229
PLACE TAU3 TAG IN TAG WORD.	4F11230
COMBINE	4F11231
SUBSCRIPTS 3,2, AND 1,	4F11232

D

03116	-0	50100	0	01133	3D0340	ORA E+5
03117	0	10000	0	03216	3D0350	TZE NOTAG
03120	-0	50000	0	00030	FTG000	CAL EIFNO
03121	-0	32000	0	01527		ANA MASK1
03122	0	60200	0	01347		SLW G
03123	-0	50000	0	01126		CAL E
03124	0	77100	0	00030		ARS 24
03125	-0	60200	0	01347		ORS G
03126	0	07400	1	03321		TSX TET00,1
03127	0	00000	0	00004		PZE 4
03130	1	00000	0	03220		TXI SAEXIT,0
03131	0	53400	4	01412	2D0000	LXA L(4),4
03132	0	56000	4	01135	2D0001	LDQ E+7,4
03133	0	07400	1	02566		TSX SR6DC1,1
03134	0	60100	4	01135		STO E+7,4
03135	2	00002	4	03132		TIX 2D0001,4,2
03136	0	53400	4	01410		LXA L(2),4
03137	0	50000	4	01143	2D0002	CLA E+13,4
03140	0	60200	0	01347		SLW G
03141	0	56000	0	01347		LDQ G
03142	0	07400	1	02566		TSX SR6DC1,1
03143	0	56000	4	01143		LDQ E+13,4
03144	0	16200	0	03146		TQP 2D0040
03145	-0	50100	0	01453		ORA 2E17
03146	0	60100	4	01143	2D0040	STO E+13,4
03147	2	00001	4	03137		TIX 2D0002,4,1
03150	0	07400	4	01775		TSX DIM2SR,4
03151	0	07400	4	03400		TSX DIAG,4
03152	0	50000	0	01131	2D0060	CLA E+3
03153	0	76700	0	00022		ALS 18
03154	0	40000	0	01133		ADD E+5
03155	0	60100	0	01131		STO E+3
03156	0	50000	0	01134		CLA E+6
03157	0	60100	0	01133		STO E+5
03160	0	50000	0	01101		CLA D12
03161	-0	32000	0	01527		ANA MASK1
03162	0	60100	0	01134		STO E+6
03163	-0	50000	0	01141		CAL E+11
03164	0	76700	0	00022		ALS 18
03165	-0	50100	0	01142		ORA E+12
03166	0	60200	0	01141		SLW E+11
03167	0	07400	4	00436		TSX TAU2IX,4
03170	0	76700	0	00030		ALS 24
03171	-0	60200	0	01126		ORS E
03172	-0	50000	0	01132		CAL E+4
03173	1	00000	0	03116		TXI 3D0340,0
03174	0	56000	0	01131	1D0000	LDQ E+3
03175	0	07400	1	02566		TSX SR6DC1,1
03176	0	76700	0	00022		ALS 18
03177	0	60100	0	01131		STO E+3
03200	0	50000	0	01141		CLA E+11
03201	0	60200	0	01347		SLW G
03202	0	56000	0	01347		LDQ G
03203	0	07400	1	02566		TSX SR6DC1,1

D

AND IF THEY ARE ALL ZERO,  
 --DON'T ENTER FORTAG.  
 ENTER FORTAG=  
 BRING UP ALPHA (INTFORMNO)  
 AND STORE IN G.  
 BRING UP TAUTAG FOR I,  
 ADJUST, AND  
 PLACE IN G WITH ALPHA. THEN  
 \* ENTER INTO FORTAG TABLE  
 (TET TABLE 4).  
 GO TO EXIT.  
 THEN PICKUP AND  
 CONVERT COEFFICIENTS  
 \* (BCD TO BINARY),  
 AND STORE BACK IN E+3 AND E+5.  
 WHEN DONE,  
 PREPARE TO  
 PICKUP THE TWO ADDENDS.  
 STRIP OFF  
 THEIR SIGNS,  
 \* CONVERT THEM FROM BCD TO BINARY,  
 PUT SIGN IN S-BIT OF MQ, AND  
 IF PLUS--SKIP NEXT,  
 IF MINUS--OR SIGN INTO BIT 18,  
 AND STORE BACK IN E+11 AND E+12.  
 WHEN DONE,  
 \* GO SEARCH DIM2 TABLE.  
 \* --ERROR...NOT ON DRUM.  
 REFORMATIZE E-STRING =  
 PACK TOGETHER  
 COEFFICIENTS 1 AND 2,  
 AND STORE THEM IN E+3.  
 MOVE SUBSCRIPT 2 INTO E+5  
 (NEXT TO SUBSCRIPT 1 IN E+4).  
 OBTAIN  
 DIMENSION 1, AND MOVE IT  
 INTO E+6.  
 PACK TOGETHER  
 ADDENDS 1 AND 2,  
 AND STORE THEM  
 IN E+11.  
 \* GO SEARCH TAU2 TABLE.  
 POSITION TAU2 TAG, AND  
 PLACE TAU2 TAG IN TAG WORD.  
 COMBINE SUBSCRIPTS 1 AND 2, AND  
 GO TO FORTAG SECTION.  
 PICKUP AND CONVERT COEFFICIENTS  
 \* (BCD TO BINARY), AND  
 THEN ADJUST THEM,  
 AND STORE THEM BACK IN E+3.  
 PICKUP ADDEND,  
 STRIP OFF SIGN,  
 CONVERT ADDEND  
 \* (BCD TO BINARY), AND THEN

4F11233  
 4F11234  
 4F11235  
 4F11236  
 4F11237  
 4F11238  
 4F11239  
 4F11240  
 4F11241  
 4F11242  
 4F11243  
 4F11244  
 4F11245  
 4F11246  
 4F11247  
 4F11248  
 4F11249  
 4F11250  
 4F11251  
 4F11252  
 4F11253  
 4F11254  
 4F11255  
 4F11256  
 4F11257  
 4F11258  
 4F11259  
 4F11260  
 4F11261  
 4F11262  
 4F11263  
 4F11264  
 4F11265  
 4F11266  
 4F11267  
 4F11268  
 4F11269  
 4F11270  
 4F11271  
 4F11272  
 4F11273  
 4F11274  
 4F11275  
 4F11276  
 4F11277  
 4F11278  
 4F11279  
 4F11280  
 4F11281  
 4F11282  
 4F11283  
 4F11284  
 4F11285  
 4F11286

D

```

03204 0 56000 0 01141 LDQ E+11 PUT SIGN IN S-BIT OF MQ, AND 4F11287
03205 0 16200 0 03207 TQP 100001 IF PLUS--SKIP NEXT, 4F11288
03206 -0 50100 0 01453 ORA 2E17 IF MINUS--OR SIGN INTO BIT 18. 4F11289
03207 0 76700 0 00022 1D0001 ALS 18 THEN ADJUST AND STORE 4F11290
03210 0 60200 0 01141 SLW E+11 BACK INTO E+11. 4F11291
03211 0 07400 4 00431 TSX TAU1IX,4 * GO SEARCH TAU1 TABLE. 4F11292
03212 0 76700 0 00030 ALS 24 POSITION TAU1 TAG, AND 4F11293
03213 -0 60200 0 01126 ORS E PLACE TAU1 TAG IN TAG WORD. 4F11294
03214 -0 50000 0 01132 CAL E+4 TAKE SUBSCRIPT, AND 4F11295
03215 1 00000 0 03117 TXI 3D0350,0 GO TO FORTAG SECTION. 4F11296
03216 -0 50000 0 01471 NOTAG CAL FNIND POSITION SIGMA1 TAG, AND 4F11297
03217 -0 60200 0 01126 ORS E PLACE SIGMA1 TAG IN TAG WORD. 4F11298
03220 -0 53400 1 02730 SAEXIT LXI SXR1,1 RESTORE THE C(XR1), 4F11299
03221 -0 53400 2 02731 LXI SXR2,2 RESTORE THE C(XR2), 4F11300
03222 -0 53400 4 02732 LXI SXR4,4 RESTORE THE C(XR4), AND 4F11301
03223 0 02000 4 00001 TRA 1,4 * EXIT TO MAIN ROUTINE. 4F11302
END OF PROGRAM SS000. 4F11303
***** 4F11304
SUBX00,4/ CALLERS=C3000,C3300. 4F11305
SUBX00 ADDS BLANKS TO THE NAMES OF SUBROUTINES. 4F11306
03224 0 53400 3 01414 SUBX00 LXA L(6),3 PREPARE TO COUNT CHARS AND SHIFTS. 4F11307
03225 0 56000 0 01112 LDQ 1G PICKUP SUBROUTINE NAME. 4F11308
03226 -0 75400 0 00000 SUBX01 PXD ,0 CLEAR THE AC, AND 4F11309
03227 -0 76300 0 00006 LGL 6 SEARCH FOR A BLANK 4F11310
03230 0 40200 0 01430 SUB BLANK CHARACTER IN THIS NAME. 4F11311
03231 0 10000 0 03235 TZE SUBX03 IF NOT BLANK, THEN 4F11312
03232 1 00006 1 03233 TXI SUBX02,1,6 UPDATE SHIFT COUNT, AND 4F11313
03233 2 00001 2 03226 SUBX02 TIX SUBX01,2,1 CONTINUE UNTIL 6 CHARS ARE COUNTED. 4F11314
03234 0 02000 4 00001 TRA 1,4 * RETURN TO CALLER AFTER 6TH CHAR. 4F11315
03235 0 56000 0 01526 SUBX03 LDQ BLANKS IF LESS THAN 6 CHARACTERS IN NAME, 4F11316
03236 -0 76300 1 00044 LGL 36,1 SHIFT ENOUGH BLANKS INTO THE AC, 4F11317
03237 -0 60200 0 01112 ORS 1G AND FILL OUT NAME WITH BLANKS. 4F11318
03240 0 02000 4 00001 TRA 1,4 * RETURN TO CALLER. 4F11319
END OF PROGRAM SUBX00. 4F11320
***** 4F11321
TESTFX,1/ CALLERS=SS000,C3000,IFFIX. 4F11322
TESTFX TESTS FOR FIXED OR FLOATING POINT VARIABLES. 4F11323
03241 -0 50000 0 01331 TESTFX CAL FIRSTC COMPARE FIRST CHARACTER 4F11324
03242 0 34000 0 01423 CAS L(H) WITH H. 4F11325
03243 0 34000 0 01425 CAS L(O) IF GREATER THAN H, COMPARE WITH O. 4F11326
03244 0 02000 1 00001 TRA 1,1 * IF NOT GREATER THAN H, LESS THAN O, 4F11327
03245 0 02000 1 00001 TRA 1,1 * THEN TAKE FLOATING POINT EXIT. 4F11328
03246 0 02000 1 00002 TRA 2,1 * OTHERWISE, TAKE FIXED POINT EXIT. 4F11329
END OF PROGRAM TESTFX. 4F11330
***** 4F11331
TEST.,4/ CALLS=DIAG. CALLERS=C0100,C0200,C0300,C0400,C1000, 4F11332
C1100,C1200,C1400,C1500,C1600,C3000,C3100,C3200,C3400,LPR. 4F11333
TEST.. TESTS THE CHARACTER IN THE AC(30-35). 4F11334
TEST CHARACTER IN THE AC FOR COMMA OR ENDMARK. 4F11335
03247 0 34000 0 01376 TESTAO CAS COMMA 4F11336
03250 0 02000 0 03252 TRA TESTA1 4F11337
4F11338
4F11339
4F11340

```

03251	0	02000	4	00001	TESTA1	TRA	1,4	* RETURN TO CALLER.	4F11341
03252	0	40200	0	01374		SUB	ENDMK		4F11342
03253	0	10000	4	00001		TZE	1,4	* RETURN TO CALLER.	4F11343
03254	0	07400	4	03400		TSX	DIAG,4	* ERROR -- GO TO DIAGNOSTIC.	4F11344
								TEST CHARACTER IN THE AC FOR COMMA OR CLOSED PARENTHESIS.	4F11345
03255	0	34000	0	01376	TESTB0	CAS	COMMA		4F11346
03256	0	02000	0	03260		TRA	TESTB1		4F11347
03257	0	02000	4	00001		TRA	1,4	* RETURN TO CALLER.	4F11348
03260	0	40200	0	01377	TESTB1	SUB	CLOS		4F11349
03261	0	10000	4	00001		TZE	1,4	* RETURN TO CALLER.	4F11350
03262	0	07400	4	03400		TSX	DIAG,4	* ERROR -- GO TO DIAGNOSTIC.	4F11351
								TEST CHARACTER IN THE AC FOR OPEN PARENTHESIS OR ENDMARK.	4F11352
03263	0	34000	0	01375	TESTC0	CAS	OPEN		4F11353
03264	0	02000	0	03266		TRA	TESTC1		4F11354
03265	0	02000	4	00001		TRA	1,4	* RETURN TO CALLER.	4F11355
03266	0	40200	0	01374	TESTC1	SUB	ENDMK		4F11356
03267	0	10000	4	00001		TZE	1,4	* RETURN TO CALLER.	4F11357
03270	0	07400	4	03400		TSX	DIAG,4	* ERROR -- GO TO DIAGNOSTIC.	4F11358
								TEST CHARACTER IN THE AC FOR ENDMARK.	4F11359
03271	0	34000	0	01374	TESTD0	CAS	ENDMK		4F11360
03272	0	07400	4	03400	ERR77P	TSX	DIAG,4	* MACHINE ERROR, GO TO DIAGNOSTIC.	4F11361
03273	0	02000	4	00001		TRA	1,4	* RETURN TO CALLER.	4F11362
03274	0	07400	4	03400		TSX	DIAG,4	* ERROR -- GO TO DIAGNOSTIC.	4F11363
								TEST CHARACTER IN THE AC FOR OPEN PARENTHESIS.	4F11364
03275	0	34000	0	01375	TESTE0	CAS	OPEN		4F11365
03276	0	02000	0	03300		TRA	TESTE1		4F11366
03277	0	02000	4	00001		TRA	1,4	* RETURN TO CALLER.	4F11367
03300	0	07400	4	03400	TESTE1	TSX	DIAG,4	* ERROR -- GO TO DIAGNOSTIC.	4F11368
								TEST CHARACTER IN THE AC FOR CLOSED PARENTHESIS.	4F11369
03301	0	34000	0	01377	TESTF0	CAS	CLOS		4F11370
03302	0	02000	0	03304		TRA	TESTF1		4F11371
03303	0	02000	4	00001		TRA	1,4	* RETURN TO CALLER.	4F11372
03304	0	07400	4	03400	TESTF1	TSX	DIAG,4	* ERROR -- GO TO DIAGNOSTIC.	4F11373
								TEST CHARACTER IN THE AC FOR COMMA.	4F11374
03305	0	34000	0	01376	TESTG0	CAS	COMMA		4F11375
03306	0	02000	0	03310		TRA	TESTG1		4F11376
03307	0	02000	4	00001		TRA	1,4	* RETURN TO CALLER.	4F11377
03310	0	07400	4	03400	TESTG1	TSX	DIAG,4	* ERROR -- GO TO DIAGNOSTIC.	4F11378
								TEST CHARACTER IN THE AC FOR NON-NUMERIC.	4F11379
03311	0	34000	0	01417	TESTH0	CAS	L(9)		4F11380
03312	0	02000	4	00001		TRA	1,4	* RETURN TO CALLER.	4F11381
03313	0	76100	0	00000		NOP			4F11382
03314	0	07400	4	03400		TSX	DIAG,4	* ERROR -- GO TO DIAGNOSTIC.	4F11383
								TEST CHARACTER IN THE AC FOR NUMERIC.	4F11384
03315	0	34000	0	01417	TESTI0	CAS	L(9)		4F11385
03316	0	07400	4	03400		TSX	DIAG,4	* ERROR -- GO TO DIAGNOSTIC.	4F11386
03317	0	02000	4	00001		TRA	1,4	* RETURN TO CALLER.	4F11387
03320	0	02000	4	00001		TRA	1,4	* RETURN TO CALLER.	4F11388
								END OF PROGRAM TEST...	4F11389
								*****	4F11390
								TET00,1/ CALLERS=CA000,CC000,C0100,C0200,C0300,C1300,C1400,	4F11391
								C1500,C3000,C3100,SS000,FOR,SPC,CMA,EMK,LIB,VRA(VRD).	4F11392
								TET00 MAKES ENTRIES IN THE TAPE TABLES. WHEN A BUFFER IS	4F11393
									4F11394



03321	-0	63400	2	01100	TET00	SXD TETXR2,2	FULL IT IS WRITTEN AS A RECORD ONTO TAPE 4.	4F11395
03322	-0	63400	4	01101		SXD TETXR4,4	SAVE THE C(XR2),	4F11396
03323	-0	60000	0	01103		STQ TETMQR	SAVE THE C(XR4), AND	4F11397
03324	0	50000	1	00001		CLA 1,1	SAVE THE C(MQR),	4F11398
03325	0	76700	0	00001		ALS 1	COMPUTE TABLE NUMBER	4F11399
03326	0	40000	1	00001		ADD 1,1	TIMES 3	4F11400
03327	0	76000	0	00006		COM	AND	4F11401
03330	0	40000	0	01407		ADD L(1)	PLACE THE 2S COMPLEMENT	4F11402
03331	0	73400	2	00000		PAX ,2	OF THIS	4F11403
03332	0	50000	2	00322		CLA INTET,2	IN XR2.	4F11404
03333	0	77100	0	00022		ARS 18	OBTAIN THE CURRENT	4F11405
03334	0	60100	0	01102		STO TETWRK	B (BUFFER CAPACITY),	4F11406
03335	0	50000	2	00324		CLA INTET+2,2	AND SAVE IT. THEN	4F11407
03336	0	77100	0	00022		ARS 18	GET P (PORTION OF BUFFER FULL),	4F11408
03337	0	40200	0	01102		SUB TETWRK	AND	4F11409
03340	-0	10000	0	03356		TNZ TET03	COMPARE TO B.	4F11410
03341	0	62200	2	00324		STD INTET+2,2	IF BUFFER IS FULL,	4F11411
03342	0	76600	0	00224	TET01	WRS TABTAP	SET P = 0, AND	4F11412
03343	0	53400	4	01102		LXA TETWRK,4	PREPARE TO WRITE BLOCK ON TABTAP.	4F11413
03344	0	50000	0	01102		CLA TETWRK	SET XR4 = BLOCK SIZE (B).	4F11414
03345	0	40000	2	00322		ADD INTET,2	ADD BLOCK SIZE TO	4F11415
03346	0	62100	0	03350		STA TET02	ORIGIN OF CURRENT BLOCK (O),	4F11416
03347	0	70000	1	00001		CPY 1,1	AND SET ADDRESS OF COPY LOOP (O+B).	4F11417
03350	0	70000	4	00000	TET02	CPY **,4	COPY TABLE NUM FOR IDENTIFICATION.	4F11418
03351	2	00001	4	03350		TIX TET02,4,1	WRITE BLOCK ONTO	4F11419
03352	0	76600	0	00333		IOD	TABLE TAPE, AND	4F11420
03353	0	50000	2	00324		CLA INTET+2,2	WHEN DONE,	4F11421
03354	0	40000	0	01407		ADD L(1)	INCREASE C (BLOCK COUNT)	4F11422
03355	0	62100	2	00324		STA INTET+2,2	BY 1 FOR	4F11423
03356	0	50000	2	00324	TET03	CLA INTET+2,2	BLOCK JUST WRITTEN ON TABLE TAPE.	4F11424
03357	0	77100	0	00022		ARS 18	ADD P (PORTION OF BUFFER FULL)	4F11425
03360	0	40000	2	00322		ADD INTET,2	TO O (ORIGIN OF CURRENT TABLE	4F11426
03361	0	62100	0	03371		STA TET05	BUFFER) TO SET	4F11427
03362	0	50000	2	00323		CLA INTET+1,2	ADDRESS OF ENTRY LOOP (P+O).	4F11428
03363	0	62100	0	03370		STA TET04	OBTAIN CURRENT A (ENTRY ADDRESS),	4F11429
03364	-0	73400	4	00000		PDX ,4	AND SET ADDRESS OF ENTRY LOOP.	4F11430
03365	0	40000	2	00324		ADD INTET+2,2	SET XR4 = E (ENTRY LENGTH IN WRDS).	4F11431
03366	0	62200	2	00324		STD INTET+2,2	INCREASE P BY E TO ACCOUNT	4F11432
03367	-0	53400	2	01406		LXD L(O),2	FOR FOLLOWING ENTRY.	4F11433
03370	0	50000	2	00000	TET04	CLA **,2	SET XR2 = 0. THEN	4F11434
03371	0	60100	2	00000	TET05	STO **,2	MOVE THE CURRENT ENTRY	4F11435
03372	1	77777	2	03373		TXI TET06,2,-1	INTO THE CURRENT TABLE BUFFER, AND	4F11436
03373	2	00001	4	03370	TET06	TIX TET04,4,1	WHEN	4F11437
03374	0	56000	0	01103		LDQ TETMQR	DONE,	4F11438
03375	-0	53400	2	01100		LXD TETXR2,2	RESTORE ORIGINAL C(MQR),	4F11439
03376	-0	53400	4	01101		LXD TETXR4,4	RESTORE ORIGINAL C(XR2),	4F11440
03377	0	02000	1	00002		TRA 2,1	RESTORE ORIGINAL C(XR4), AND	4F11441

END OF PROGRAM TET00.

\*\*\*\*\*  
 DIAGNOSTIC CALLERS=CD000,CB000,CC000,CA100,C0200,C0300,C0900,4F11446  
 C1000,C1200,C3000,C3100,C3200,C3400,C0150,C0160,C0180,TEST.,4F11447  
 SR6DC1,DRTABS,RDRX,DIM,SR,SS000,ROYCNV,RDC,RSC,LPR,EQS,RPR, 4F11448

```

CMA,EMK,BEG(TYP),VRA(VRD).
(CA000 ALSO CALLS THE DIAGNOSTIC AFTER ALL STATEMENTS HAVE
BEEN PROCESSED. IF THERE HAVE BEEN NO PREVIOUS CALLS TO
THE DIAGNOSTIC DURING SECTION ONE, THEN 1PRIME IS CALLED.)
* GO GET THE DIAGNOSTIC.
END OF DIAGNOSTIC CALLERS.
*****
ROUTINE TO COMPILE FLOW TRACING INSTRUCTIONS.
03401 -0 63400 4 03437 FLTR00 SXD FLTR05,4 SAVE CALLING TAG.
03402 0 50000 0 00030 CLA EIFNO GET LAST INTERNAL AND EXTERNAL FORMULA NOS.
03403 0 62100 0 02067 STA ENT PLACE LAST EFN IN DEC OF NTR INSTRUCTION.
03404 0 77100 0 00022 ARS 18
03405 0 62100 0 02070 STA NZE PLACE LAST IFN IN DEC OF PZE
03406 -0 53400 4 01122 LXD ARGCTR,4
03407 -3 00000 4 03413 TXL FLTR01,4,0 IS THIS AN FN FUNCTION, NO SKIP.
03410 0 60000 0 01107 STZ 1C+2
03411 0 50200 0 01454 CLS 2E18 SET ADDRESS TO -1
03412 0 02000 0 03423 TRA FLTR03
03413 0 50000 0 00365 FLTR01 CLA SBDFCN IS THIS A MAIN PROGRAM OR SUBPROGRAM.
03414 -0 10000 0 03420 TNZ FLTR02 SKIP ON SUBPROGRAM
03415 0 60000 0 01107 STZ 1C+2 SET ADDRESS TO 0
03416 0 60000 0 01110 STZ 1C+3
03417 0 02000 0 03424 TRA FLTR04
03420 0 50000 0 01523 FLTR02 CLA DOLSGN SET ADDRESS TO $+2
03421 0 60100 0 01107 STO 1C+2
03422 0 50000 0 01457 CLA D2
03423 0 60100 0 01110 FLTR03 STO 1C+3 SET RELATIVE ADDRESS WORD OF CIT.
03424 0 07400 4 01731 FLTR04 TSX CIT00,4
03425 0 00000 0 01406 PZE L(0) COMPILE NTR **2,0,EFN
03426 0 00000 0 02067 PZE ENT
03427 0 00000 0 01510 PZE 15P
03430 0 00000 0 01457 PZE D2
03431 0 07400 4 01731 TSX CIT00,4
03432 0 00000 0 01406 PZE L(0) COMPILE PZE ALPHA,0,IFN
03433 0 00000 0 02070 PZE NZE WHERE ALPHA IS 0 FOR MAIN PROGRAM, $+2 FOR
03434 0 00000 0 01107 PZE 1C+2 SUBPROGRAM, OR -1 FOR FN FUNCTION IN EITHER
03435 0 00000 0 01110 PZE 1C+3 MAIN OR SUBPROGRAM.
03436 -0 53400 4 03437 LXD FLTR05,4
03437 1 00000 0 01731 FLTR05 TXI CIT00,0,** GO COMPILE LXD M(,4 OR 7(,TYPE=,4
*****
END OF THE COMMON PART OF SECTION ONE.
*****
SECTION 1 / INITIALIZATION =
704 FORTRAN MASTER RECORD CARD / INITIALIZATION = F0150000.
00000 0 00004 0 00471 ORG 0
00001 0 00000 0 00600 PZE FORSUB,,1TOCS
00471 00600 PZE DMWR98
ORG FORSUB
INITIALIZATION OCCUPIES FORSUB BUFFER AND IS WRITTEN OVER
BY FORSUB ENTRIES IF THERE ARE ANY FORTRAN FUNCTIONS IN THE

```

```

PROGRAM.
*****
PART 1 / CLEAR DRUMS 1,2,3,4, AND REWIND TAPES 2,3,4 =
00471 0 53400 1 00575 CLDR00 LXA CLDR07,1 CLEAR DRUMS 1,2,3,4 TO +0.
00472 0 76600 1 00305 CLDR01 WRS 197,1 X
00473 -0 53400 2 00575 CLDR03 LXD CLDR07,2 X
00474 0 70000 0 00576 CLDR03 CPY CLDR08 X
00475 2 00001 2 00474 TIX CLDR03,2,1 X
00476 2 00001 1 00472 TIX CLDR01,1,1 X
00477 0 77200 0 00222 REW 146 REWIND WORKING TAPES 2,3,4.
00500 0 77200 0 00223 REW 147 X
00501 0 77200 0 00224 REW 148 X
END OF INITIALIZATION / PART 1.
*****
PART 2 / WRITE STATES A,B,C,D ON DRUMS 1,3,4,2=
00502 0 53400 4 01411 DMWR01 LXA L(3),4 PREPARE TO WRITE STATE D ON DRUM 2.
00503 0 02000 0 00513 TRA DMWR11 X
00504 0 53400 4 01407 DMWR03 LXA L(1),4 PREPARE TO WRITE STATE C ON DRUM 4.
00505 0 02000 0 00513 TRA DMWR11 X
00506 0 53400 4 01410 DMWR06 LXA L(2),4 PREPARE TO WRITE STATE B ON DRUM 3.
00507 0 02000 0 00513 TRA DMWR11 X
00510 0 53400 4 01412 DMWR09 LXA L(4),4 PREPARE TO WRITE STATE A ON DRUM 1.
00511 0 50000 0 00600 CLA DMWR98 THIS IS FINAL STATE TO BE WRITTEN.
00512 0 62100 0 00546 STA DMWR40 CHANGE ADDRESS TO GET OUT OF LOOP.
00513 0 50000 4 02437 DMWR11 CLA ZETA+4,4 GET LENGTH OF CURRENT STATE.
00514 -0 73400 2 00000 PDX ,2 LENGTH OF STATE TO IR2.
00515 -0 63400 2 00574 SXD CHECK,2 SAVE LENGTH.
00516 0 77100 0 00022 ARS 18 LENGTH + ORIGIN TO PREPARE FOR CK
00517 0 40000 0 02430 ADD MTR3 SUM AND COPY LOOPS.
00520 0 62100 0 00523 STA DMWR20 X
00521 0 62100 0 00533 STA DMWR26 X
00522 -0 75400 0 00000 PDX ,0 CLEAR AC AND COMPUTE CK SUM.
00523 0 36100 2 00000 DMWR20 ACL **,2 X
00524 2 00001 2 00523 TIX DMWR20,2,1 X
00525 0 60200 0 01103 SLW DRCKSM X
00526 0 53400 1 01413 LXA DRMERC,1 SET FOR FIVE ATTEMPTS.
00527 0 76600 4 00305 DMWR23 WDR 5,4 PREPARE TO WRITE DRUM.
00530 -0 53400 2 00574 LXD CHECK,2 X
00531 0 46000 4 02437 LDA ZETA+4,4 X
00532 0 70000 0 01103 CPY DRCKSM WRITE CK SUM ON DRUM.
00533 0 70000 2 00000 DMWR26 CPY **,2 WRITE STATE ON DRUM.
00534 2 00001 2 00533 TIX DMWR26,2,1 X
00535 0 76200 4 00305 RDR 5,4 PREPARE TO READ STATE BACK.
00536 -0 53400 2 00574 LXD CHECK,2 X
00537 0 46000 4 02437 LDA ZETA+4,4 X
00540 -0 75400 0 00000 PDX ,0 CLEAR AC AND READ BACK CK SUM AND
00541 -0 70000 0 00573 CAD GARBGE STATE.
00542 0 76000 0 00006 COM X
00543 -0 70000 0 00573 DMWR32 CAD GARBGE RECOMPUTE CK SUM.
00544 2 00001 2 00543 TIX DMWR32,2,1 X
00545 0 76000 0 00006 COM X
00546 0 10000 0 00004 DMWR40 TZE 1TOCS * CK SUMS AGREE, GO GET NEXT STATE.

```

00547	2	00001	1	00527	TIX DMWR23,1,1	CK SUM FAILED, TRY UP TO 5 TIMES.	4F11522
00550	0	50000	0	00577	CLA DMWR89	SET MONITOR TO RETURN TO THIS	4F11523
00551	0	60100	0	02402	STO STATEA	PROGRAM INSTEAD OF TO STATE A.	4F11524
00552	-3	00003	4	00554	TXL DMWR80,4,3	TEST FOR STATE A IN PROGRESS.	4F11525
00553	0	07400	4	03400	TSX DIAG,4	* STATE A CANNOT BE WRITTEN ON DRUM1.	4F11526
00554	-3	00002	4	00561	DMWR80 TXL DMWR82,4,2	TEST FOR STATE D IN PROGRESS.	4F11527
00555	0	76200	0	00221	RTB 1	SPACE OVER STATE C RECORD.	4F11528
00556	0	76200	0	00221	RTB 1	SPACE OVER STATE B RECORD.	4F11529
00557	0	76200	0	00221	RTB 1	SPACE OVER STATE A RECORD.	4F11530
00560	0	07400	4	03400	TSX DIAG,4	* STATE D CANNOT BE WRITTEN ON DRUM2.	4F11531
00561	-3	00001	4	00564	DMWR82 TXL DMWR84,4,1	TEST FOR STATE B IN PROGRESS.	4F11532
00562	0	76200	0	00221	RTB 1	SPACE OVER STATE A RECORD.	4F11533
00563	0	07400	4	03400	TSX DIAG,4	* STATE B CANNOT BE WRITTEN ON DRUM3.	4F11534
00564	0	76200	0	00221	DMWR84 RTB 1	SPACE OVER STATE B RECORD.	4F11535
00565	0	76200	0	00221	RTB 1	SPACE OVER STATE A RECORD.	4F11536
00566	0	07400	4	03400	TSX DIAG,4	* STATE C CANNOT BE WRITTEN ON DRUM4.	4F11537
00567	0	53400	4	01406	DMWR88 LXA L(0),4	SET IR4 TO 0 TO CAUSE DIAGNOSTIC TO	4F11538
00570	0	02000	0	03400	TRA DIAG	* PRINT END LINE AND STOP.	4F11539
00571	0	07400	4	05702	DMWR99 TSX CA100,4	* GO TO SUBROUTINE TO LOAD FT REGION.	4F11540
00572	0	02000	0	03440	TRA CA010	* GO BEGIN STATE A OF SECTION ONE.	4F11541
END OF INITIALIZATION / PART 2.							4F11542
*****							4F11543
PART 3 / VARIABLES AND CONSTANTS USED BY INITIALIZATION=							4F11545
00574	0	00000	0	00000	GARBGE BSS 1	ERASABLE STORAGE.	4F11546
00575	0	04000	0	00004	CHECK PZE **, **	SAVING CELL FOR LENGTH OF STATE.	4F11547
00576	0	00000	0	00000	CLDR07 PZE 4,,2048	CONSTANT FOR CLEARING DRUMS.	4F11548
00577	0	02000	0	00567	CLDR08 PZE 0	CONSTANT FOR CLEARING DRUMS.	4F11549
00600	0	00000	0	00571	DMWR89 TRA DMWR88	CONSTANT FOR ERROR ROUTINE.	4F11550
					DMWR98 PZE DMWR99	CONSTANT FOR ADDRESS MODIFICATION.	4F11551
END OF INITIALIZATION / PART 3.							4F11552
*****							4F11553
SECTION 1 / STATEA =							4F11554
704 FORTRAN MASTER RECORD CARD / STATE A = F0190000.							4F11555
00000	0	00510	0	03440	ORG 0		4F11556
00001	0	00000	0	07306	PZE ORGA,,DMWR09		4F11557
					PZE ENDA-1		4F115571
NAME						FUNCTION	4F11558
PART 1 / ASSEMBLE AND CLASSIFY ALL STATEMENTS=							4F11559
CA000						ASSEMBLE STATEMENT.	4F11560
CD000						SCAN FOR HOLLERITH AND ILLEGAL CHS.	4F11561
CB000						CLASSIFY=ARITHMETIC/NON-ARITHMETIC.	4F11562
CC000						CLASSIFY=WHICH NON-ARITHMETIC.	4F11563
PART 2 / PROCESS CONTROL AND SPECIFICATION STATEMENTS=							4F11564
C0100						DO.	4F11565
C0200						GO TO.	4F11566
C0300						IF.	4F11567
C0400						IF (SENSE SWITCH.	4F11568
C0500						IF (SENSE LIGHT.	4F11569
C0600						IF DIVIDE CHECK.	4F11570
C0700						IF AC OVERFLOW.	4F11571
							4F11572

C0800	IF MQ OVERFLOW.	4F11573
C0900	PAUSE.	4F11574
C1000	ASSIGN.	4F11575
C1100	SENSE LIGHT.	4F11576
C1200	DIMENSION.	4F11577
C1300	STOP.	4F11578
C1400	FREQUENCY.	4F11579
C1500	EQUIVALENCE.	4F11580
C1600	CONTINUE.	4F11581
C3000(C3500)	SUBROUTINE / FUNCTION.	4F11582
C3100	COMMON.	4F11583
C3200	RETURN.	4F11584
C3300	CALL.	4F11585
C3400	END.	4F11586
PART 3 / PROCESS INPUT-OUTPUT STATEMENTS=		4F11587
RDC	READ CARD.	4F11588
RIT	READ INPUT TAPE.	4F11589
RDP	PRINT.	4F11590
WOT	WRITE OUTPUT TAPE.	4F11591
PDC	PUNCH.	4F11592
WBT	WRITE TAPE.	4F11593
RBT	READ TAPE.	4F11594
WRD	WRITE DRUM.	4F11595
RDD	READ DRUM.	4F11596
EFT	END FILE.	4F11597
RWN	REWIND.	4F11598
BSP	BACKSPACE.	4F11599
FOR	FORMAT.	4F11600
RSC	RESET AND SCAN.	4F11601
LISTR	CONTROL FOR LIST SCAN.	4F11602
LPR	LEFT PARENTHESIS IN LIST SCAN.	4F11603
EQS	EQUAL SIGN IN LIST SCAN.	4F11604
SPCTR	CONTROL FOR SPECIFICATION SCAN.	4F11605
SPC	SUBSCRIPT SPECIFICATIONS.	4F11606
RPR	RIGHT PARENTHESIS IN LIST SCAN.	4F11607
CMA	COMMA IN LIST SCAN.	4F11608
EMK	ENDMARK IN LIST SCAN.	4F11609
PART 4 / SUBROUTINES USED	BY STATE A=	4F11610
BEG(TYP),4	BEGINNING SCAN AND TYPE TEST.	4F11611
BEGTR	CONTROL FOR BEGINNING SCAN.	4F11612
BRW,4	BINARY READ OR WRITE COMPILER.	4F11613
BSS,2	COMPILES= IFN BSS 0.	4F11614
CA100,4	READ SOURCE PROGRAM TAPE.	4F11615
CC500,4	SCAN DICTIONARY.	4F11616
ETM(LTM)SW,4	IF SW=NOP, COMPILES ETM(LTM). SL=0.	4F11617
IFFIX,1	SETS UP FORVAR OR FORVAL ENTRY.	4F11618
IN(OUT)PUT,2	COMPILES CAL *, AND XIT (LEV).	4F11619
LIB,1	MAKES CLOSUB ENTRY, COMPILES CIT.	4F11620
VRA(VRD),4	MAKES FORVAR, FIXCON, CIT ENTRIES.	4F11621
PART 5 / CONSTANTS AND VARIABLES USED BY STATE A.		4F11622
DIC	DICTIONARY.	4F11623
T	TRANSFER TABLE.	4F11624
		4F11625
		4F11626

THE FOLLOWING CONVENTIONS ARE USED IN THIS LISTING=

```

** IN THE ADDRESS, TAG, OR DECREMENT OF AN INSTRUCTION
INDICATES THAT THIS FIELD WILL BE MODIFIED BY THE PROGRAM.
* IN COL/36 INDICATES THE INSTRUCTION IS A TRANSFER OUT OF
THIS LOGICAL BLOCK OR SUBROUTINE.
C IN COL/34 INDICATES THE INSTRUCTION WAS CORRECTED.
P IN COL/32 INDICATES THE INSTRUCTION WAS INSERTED (PATCH).

*****
STATEA/1-ASSEMBLE AND CLASSIFY ALL STATEMENTS=
1824
03440 ORGA ORG
*****
CA000/ CALLS=CA100,SR6DC1,TET00,DIAG.
CA000 ASSEMBLES STATEMENT IN THE F-REGION AND ASSIGNS AN IFN.
IF THE FINAL STATEMENT HAS BEEN
* PROCESSED, THEN GO CALL DIAGNOSTIC.
KEEP INTERNAL FORMULA NUMBER
(DECN PART OF EIFNO)
UP TO DATE BY ADDING 1.
OBTAIN HOLLERITH CODED 5-DIGIT
EXTERNAL FORMULA NO IN ACC.
AND RETAIN IN F-01.
INITIALIZE INDEX A TO COMPL OF F.
SET UP LOOP FOR 11 CYCLES.
MOVE WORD FROM REGION FT
TO REGION F.
KEEP F-REGION ADDRESS UP-TO-DATE.
TEST END OF LOOP.
* GO READ NEXT NON-BLANK CARD.
TEST RIGHTMOST CHARACTER OF
FIRST WORD FOR CONTINUATION MARK,
IF ZERO OR BLANK,
DISCONTINUE READING,
OTHERWISE CONTINUE.
BEGIN SCANNING REGION F BACKWARDS
TO FIND FIRST NON BLANK WORD.
NOT BLANK.
BLANK, SO CONTINUE SCAN.
PLACE BINARY ONES IN FIRST WORD
FOLLOWING RIGHTMOST NONBLANK WORD.
PICK UP EXTERNAL FORMULA NUMBER AND
COMPARE WITH /0 /1.
NOT COMPARE.
* TAKE EXTFORMNO, IF ANY, AND
GO TO CONVERSION SUBROUTINE AND
* RETURN HERE WITH RESULT IN ACC.
STORE RESULT IN ADDRESS OF EIFNO.
* GO TO PROGRAM TET TO ENTER EIFNO
INTO TABLE TEIFNO (TABLE O).

END OF PROGRAM CA000.
*****

```

03440	-0	53400	4	02575	CA010	LXD	ENDWRD,4	4F11627
03441	-3	00000	4	03400		TXL	DIAG,4,0	4F11628
03442	-0	53400	1	00030		LXD	EIFNO,1	4F11629
03443	1	00001	1	03444		TXI	CA013,1,1	4F11630
03444	-0	63400	1	00030	CA013	SDX	EIFNO,1	4F11631
03445	-0	50000	0	01333		CAL	FT	4F11632
03446	0	77100	0	00006		ARS	6	4F11633
03447	0	60200	0	01151		SLW	F-1	4F11634
03450	-0	53400	1	01670		LXD	DCF,1	*4F11635
03451	0	53400	2	01400	CA018	LXA	L(11),2	4F11636
03452	0	56000	2	01347	CA019	LDQ	FT+12,2	4F11637
03453	-0	60000	1	00000		STQ	0,1	4F11638
03454	2	00001	1	03455		TIX	CA020,1,1	*4F11639
03455	2	00001	2	03452	CA020	TIX	CA019,2,1	4F11640
03456	0	07400	4	05702		TSX	CA100,4	4F11641
03457	-0	50000	0	01333		CAL	FT	4F11642
03460	-0	32000	0	01374		ANA	L(63)	4F11643
03461	0	10000	0	03464		TZE	CA021	4F11644
03462	0	40200	0	01430		SUB	ABLANK	4F11645
03463	-0	10000	0	03451		TNZ	CA018	4F11646
03464	0	50000	0	01526	CA021	CLA	BLANKS	4F11647
03465	0	34000	1	77777	CA022	CAS	-1,1	4F11648
03466	0	02000	0	03470		TRA	CA023	4F11649
03467	1	00001	1	03465		TXI	CA022,1,1	4F11650
03470	0	56000	0	01531	CA023	LDQ	36ONES	4F11651
03471	-0	60000	1	00000		STQ	0,1	4F11652
03472	-0	50000	0	01151		CAL	F-1	4F11653
03473	0	34000	0	01477		CAS	5BLANKS	4F11654
03474	0	02000	0	03476		TRA	CA015	4F11655
03475	0	02000	0	03503		TRA	CD000	4F11656
03476	0	76500	0	00043	CA015	LRS	35	4F11657
03477	0	07400	1	02566		TSX	SR6DC1,1	4F11658
03500	0	62100	0	00030		STA	EIFNO	4F11659
03501	0	07400	1	03321		TSX	TET00,1	4F11660
03502	0	00000	0	00000		PZE	0	4F11661

					CD000/ CALLS=C0190X,C0190,DIAG.	4F11681
					CD000 SCANS FOR HOLLERITH AND ILLEGAL CHARACTERS.	4F11682
	03503	0	07400	4	01671 CD000 TSX C0190X,4	* SET SCAN TO PICK UP 1ST CHARACTER. 4F11683
	03504	0	07400	1	03534 CD001 TSX CD900,1	* IF NOT ENDMARK OR ILLEGAL CHARACTER 4F11684
	03505	0	34000	0	01376 CAS COMMA	SCAN 4F11685
D	03506	1	00000	0	03510 TXI CD002,0	FOR 4F11686
D	03507	1	00000	0	03512 TXI CD003,0	HOLLERITH 4F11687
	03510	0	40200	0	01375 CD002 SUB OPEN	SPECIFICATION 4F11688
	03511	-0	10000	0	03504 TNZ CD001	WHICH 4F11689
	03512	0	07400	1	03534 CD003 TSX CD900,1	* CAN BE= 4F11690
	03513	0	40200	0	01373 SUB L(10)	, N H 4F11691
	03514	0	12000	0	03504 TPL CD001	OR = ( N H. 4F11692
	03515	0	07400	1	03534 CD004 TSX CD900,1	* IF NOT ENDMARK OR ILLEGAL CHARACTER 4F11693
	03516	0	34000	0	01417 CAS L(9)	CONTINUE SCAN. 4F11694
D	03517	1	00000	0	03522 TXI CD005,0	N 4F11695
D	03520	1	00000	0	03515 TXI CD004,0	IS 4F11696
D	03521	1	00000	0	03515 TXI CD004,0	A 4F11697
	03522	0	34000	0	01423 CD005 CAS L(H)	FIXED 4F11698
D	03523	1	00000	0	03505 TXI CD001+1,0	POINT 4F11699
D	03524	1	00000	0	03526 TXI CD700,0	INTEGER. 4F11700
D	03525	1	00000	0	03505 TXI CD001+1,0	X 4F11701
	03526	0	07400	4	01707 CD700 TSX C0190,4	* GO GET NEXT NONBLANK CHARACTER, 4F11702
	03527	0	34000	0	01374 CAS ENDMK	AND IF ENDMARK, 4F11703
D	03530	1	00000	0	03532 TXI CD701,0	THEN SKIP 4F11704
D	03531	1	00000	0	03616 TXI CC000,0	* TO NON-ARITHMETIC CLASSIFICATION. 4F11705
	03532	0	07400	1	03543 CD701 TSX CD600,1	* SINCE HOLLERITH HAS BEEN FOUND, 4F11706
D	03533	1	00000	0	03526 TXI CD700,0	THEN \$ IS LEGAL IN FORMAT TEXT. 4F11707
	03534	0	07400	4	01707 CD900 TSX C0190,4	* OBTAIN NEXT NONBLANK CHARACTER, 4F11708
	03535	0	34000	0	01374 CAS ENDMK	AND IF NOT 4F11709
D	03536	1	00000	0	03540 TXI CD800,0	ENDMARK, THEN SKIP 4F11710
D	03537	1	00000	0	03562 TXI CB000,0	* EXIT TO ARITH/NON-ARITH SCAN. 4F11711
	03540	0	34000	0	01427 CD800 CAS SPECOP	CHECK FOR \$ 4F11712
D	03541	1	00000	0	03546 TXI CD601,0	WHICH, UNLESS HOLLERITH, IS AN 4F11713
	03542	0	07400	4	03400 TSX DIAG,4	* ERROR -- GO TO DIAGNOSTIC. 4F11714
	03543	0	34000	0	01435 CD600 CAS PM	CHECK FOR RECORD MARK 4F11715
	03544	0	02000	1	00001 TRA 1,1	WHICH IS AN 4F11716
	03545	0	07400	4	03400 TSX DIAG,4	* ERROR -- GO TO DIAGNOSTIC. 4F11717
	03546	0	34000	0	01426 CD601 CAS CHAR3	CHECK FOR MINUS ZERO 4F11718
	03547	0	02000	1	00001 TRA 1,1	WHICH IS AN 4F11719
	03550	0	07400	4	03400 TSX DIAG,4	* ERROR -- GO TO DIAGNOSTIC. 4F11720
	03551	0	34000	0	01424 CAS CHAR2	CHECK FOR PLUS ZERO 4F11721
	03552	0	02000	1	00001 TRA 1,1	WHICH IS AN 4F11722
	03553	0	07400	4	03400 TSX DIAG,4	* ERROR -- GO TO DIAGNOSTIC. 4F11723
	03554	0	34000	0	01420 CAS MINUS	CHECK FOR MINUS SIGN 4F11724
	03555	0	02000	1	00001 TRA 1,1	WHICH IS AN 4F11725
	03556	0	07400	4	03400 TSX DIAG,4	* ERROR -- GO TO DIAGNOSTIC. 4F11726
	03557	0	40200	0	01373 SUB TEN	CHECK FOR TEN 4F11727
	03560	-0	10000	1	00001 TNZ 1,1	WHICH IS AN 4F11728
	03561	0	07400	4	03400 TSX DIAG,4	* ERROR -- GO TO DIAGNOSTIC. 4F11729

END OF PROGRAM CD000.

\*\*\*\*\* 4F11730

CB000/ CALLS=C0190X,C0190,DIAG.

CB000 CLASSIFIES STATEMENT AS ARITHMETIC OR NON-ARITHMETIC. 4F11731  
4F11732  
4F11733  
4F11734

	03562	0	53400	1	01407	CB000	LXA L(1),1	SET XR1 TO COUNT PARENTHESES.	4F11735
	03563	0	07400	4	01671		TSX C0190X,4	* RESET CHCTR AND FWA TO BEGIN SCAN.	4F11736
	03564	9	07400	4	01707	CB001	TSX C0190,4	* EXAMINE NEXT NON-BLANK CHARACTER.	4F11737
	03565	0	34000	0	01400		CAS AEQUAL	IF AN EQUAL SIGN,	4F11738
D	03566	1	00000	0	03570		TXI CB005,0	THEN	4F11739
D	03567	1	00000	0	03601		TXI CB200,0	GO TEST PAREN-COUNT.	4F11740
	03570	0	34000	0	01375	CB005	CAS ALPAR	IF A LEFT PARENTHESIS,	4F11741
D	03571	1	00000	0	03573		TXI CB006,0	THEN	4F11742
	03572	1	00001	1	03564		TXI CB001,1,1	UPDATE PAREN-COUNT BY 1.	4F11743
	03573	0	34000	0	01377	CB006	CAS ARPAP	IF A RIGHT PARENTHESIS,	4F11744
D	03574	1	00000	0	03576		TXI CB007,0	THEN	4F11745
D	03575	1	00000	0	03614		TXI CB500,0	GO TEST PAREN-COUNT.	4F11746
	03576	0	40200	0	01374	CB007	SUB ENDMK	IF NOT ENDMARK, THEN	4F11747
	03577	-0	10000	0	03564		TNZ CB001	GO EXAMINE NEXT CHARACTER.	4F11748
D	03600	1	00000	0	03616		TXI CC000,0	* OTHERWISE, GO TO DIC LOOK-UP.	4F11749
	03601	2	00001	1	03616	CB200	TIX CC000,1,1	* IF EQUAL WAS NOT WITHIN PARENS,	4F11750
	03602	0	07400	4	01707	CB201	TSX C0190,4	* THEN EXAMINE NEXT CHARACTER.	4F11751
	03603	0	34000	0	01375		CAS ALPAR	IF LEFT PARENTHESIS,	4F11752
D	03604	1	00000	0	03606		TXI CB205,0	THEN	4F11753
D	03605	1	00000	0	02404		TXI ARITH,0	* THIS IS AN ARITHMETIC FORMULA.	4F11754
	03606	0	34000	0	01376	CB205	CAS ACOMMA	IF A COMMA,	4F11755
D	03607	1	00000	0	03611		TXI CB206,0	THEN	4F11756
D	03610	1	00000	0	03616		TXI CC000,0	* GO TO NON-ARITHMETIC DIC LOOK-UP.	4F11757
	03611	0	40200	0	01374	CB206	SUB ENDMK	IF NOT ENDMARK, THEN	4F11758
	03612	-0	10000	0	03602		TNZ CB201	GO EXAMINE NEXT CHARACTER.	4F11759
D	03613	1	00000	0	02404		TXI ARITH,0	* THIS IS AN ARITHMETIC FORMULA.	4F11760
	03614	2	00001	1	03564	CB500	TIX CB001,1,1	IF PAREN-COUNT DOES NOT BALANCE,	4F11761
	03615	0	07400	4	03400		TSX DIAG,4	* ERROR-GO TO DIAGNOSTIC ROUTINE.	4F11762
							END OF PROGRAM CB000.		4F11763
							*****		4F11764
							CC000/ CALLS=CC500,C0190X,DIAG,C0190,TET00.		4F11765
							CC000 CLASSIFIES STATEMENT AS TO WHICH NON-ARITHMETIC.		4F11766
	03616	0	60000	0	01113	CC000	STZ 2G	SET DICTIONARY WORD TAG, AND	4F11767
	03617	0	53400	3	01406		LXA L(10),3	CHARACTER COUNT AND ENTRY COUNT.	4F11768
	03620	0	07400	4	01671	CC001	TSX C0190X,4	* RESET CHCTR AND FWA TO BEGIN SCAN.	4F11769
	03621	0	07400	4	05743		TSX CC500,4	* EXAMINE NEXT DICTIONARY CHARACTER.	4F11770
	03622	0	34000	0	01374		CAS ENDMK	TEST FOR CONSECUTIVE ENDMARKS.	4F11771
	03623	0	02000	0	03272		TRA ERR77P	* MACHINE ERROR, GO TO DIAGNOSTIC.	4F11772
	03624	0	07400	4	03400		TSX DIAG,4	* ERROR = NOT FOUND IN DICTIONARY.	4F11773
D	03625	1	00000	0	03632		TXI CC004,0	GO BEGIN COMPARISON.	4F11774
	03626	0	07400	4	05743	CC002	TSX CC500,4	* EXAMINE NEXT DICTIONARY CHARACTER.	4F11775
	03627	0	34000	0	01374		CAS ENDMK	TEST FOR END OF DIC ENTRY.	4F11776
D	03630	1	00000	0	03272		TXI ERR77P,0	* MACHINE ERROR, GO TO DIAGNOSTIC.	4F11777
D	03631	1	00000	0	03644		TXI CC007,0	IF END OF ENTRY, LOOK NO FURTHER.	4F11778
	03632	0	60100	0	01105	CC004	STO 1C	OTHERWISE, SAVE CHARACTER	4F11779
	03633	-0	60000	0	01106		STQ 1C+1	AND REMAINDER OF DICTIONARY WORD.	4F11780
	03634	0	07400	4	01707		TSX C0190,4	* GO GET NEXT FORMULA CHARACTER,	4F11781
	03635	0	56000	0	01106		LDQ 1C+1	AND RESTORE DICTIONARY WORD.	4F11782
	03636	0	40200	0	01105		SUB 1C	IF CHARACTERS ARE EQUAL,	4F11783
	03637	0	10000	0	03626		TZE CC002	THEN GO COMPARE NEXT CHARACTERS.	4F11784
	03640	0	07400	4	05743	CC005	TSX CC500,4	* OTHERWISE, EXAMINE NEXT DIC CHAR.	4F11785
	03641	0	40200	0	01374		SUB ENDMK	CONTINUE UNTIL AN ENDMARK IS	4F11786
	03642	-0	10000	0	03640		TNZ CC005	FOUND, THEN	4F11787
									4F11788



03643	1	7777	1	03620		TXI	CC001,1,-1	COUNT ENTRY, AND BEGIN AGAIN.	4F11789
03644	0	50000	1	06246	CC007	CLA	T,1	IF THE CURRENT STATEMENT IS	4F11790
03645	0	12000	1	06246		TPL	T,1	OF THE NON-EXECUTABLE TYPE,	4F11791
03646	-0	63400	1	01107		SXD	1C+2,1	THEN	4F11792
03647	0	07400	1	03321		TSX	TET00,1	* GO ENTER EIFNO IN THE	4F11793
03650	0	00000	0	00016		PZE	14	NONEXC TABLE.	4F11794
03651	-0	53400	1	01107		LXD	1C+2,1	AND THEN	4F11795
03652	0	02000	1	06246	CC008	TRA	T,1	* TAKE INDICATED TRANSFER.	4F11796
							END OF PROGRAM CC000.		4F11797
							*****		4F11798
							STATEA/2-PROCESS CONTROL AND SPECIFICATION STATEMENTS=		4F11799
									4F11800
							*****		4F11801
									4F11802
							CO100/ CALLS=GETIFN,C0190,TEST.,C0180,C0160,C0150,TET00.		4F11803
							CO100 PROCESSES DO STATEMENTS.		4F11804
03653	0	07400	4	02366	C0100	TSX	GETIFN,4	* GET INTERNAL FORMULA NUMBER IN 1C.	4F11805
03654	0	07400	4	01707		TSX	C0190,4	* OBTAIN 1ST NON-BLANK CHARACTER	4F11806
03655	0	07400	4	03315		TSX	TESTI0,4	* WHICH SHOULD BE NUMERIC.	4F11807
03656	0	07400	2	01655		TSX	C0180,2	* OBTAIN IN 1G THE BIN EQUIV OF BETA.	4F11808
03657	0	60100	0	01113		STO	2G	SAVE THE 1ST CHAR OF SUBSCRIPT.	4F11809
03660	0	50000	0	01112		CLA	1G	TAKE CONVERTED RESULT FOR BETA	4F11810
03661	0	62100	0	01105		STA	1C	AND STORE IN ADDR OF 1C.	4F11811
03662	0	50000	0	01113		CLA	2G	1C IS NOW COMPLETE EXCEPT FOR TAG.	4F11812
03663	0	07400	2	01624		TSX	C0160,2	* OBTAIN IN 1G THE SUBSCRIPT.	4F11813
03664	0	50000	0	01112		CLA	1G	STORE SUBSCRIPT	4F11814
03665	0	60100	0	01106		STO	1C+1	IN 1C+1.	4F11815
03666	0	07400	2	01604		TSX	C0150,2	* OBTAIN IN 1G THE PROPER N1.	4F11816
03667	0	50000	0	01112		CLA	1G	STORE N1	4F11817
03670	0	60100	0	01107		STO	1C+2	IN 1C+2.	4F11818
03671	-0	50000	0	01353		CAL	I	OBTAIN I IN LOGICAL ACC AND	4F11819
03672	0	77100	0	00022		ARS	18	STORE IN POS 18 OF 1C	4F11820
03673	-0	60200	0	01105		ORS	1C	0 IF NUMERIC, OR 1 IF NON-NUMERIC.	4F11821
03674	0	07400	2	01604		TSX	C0150,2	* OBTAIN IN 1G THE PROPER N2.	4F11822
03675	0	07400	4	03247		TSX	TESTA0,4	* TEST THE AC FOR COMMA OR ENDMARK.	4F11823
03676	-0	10000	0	03701		TNZ	C0113	IF ENOMARK, THEN	4F11824
03677	-0	77300	0	00037		RQL	31	CREATE ONE IN MQ FOR N3	4F11825
03700	-0	60000	0	01365		STQ	RESIDU	AND PLACE IN RESIDU.	4F11826
03701	0	50000	0	01112	C0113	CLA	1G	STORE N2	4F11827
03702	0	60100	0	01110		STO	1C+3	IN 1C+3.	4F11828
03703	-0	50000	0	01353		CAL	I	OBTAIN I IN LOG ACC AND	4F11829
03704	0	77100	0	00023		ARS	19	STORE IN POS 19 OF 1C	4F11830
03705	-0	60200	0	01105		ORS	1C	0 IF NUMERIC, OR 1 IF NON-NUMERIC.	4F11831
03706	0	07400	2	01604		TSX	C0150,2	* OBTAIN IN 1G THE PROPER N3.	4F11832
03707	0	07400	4	03271		TSX	TESTD0,4	* THE AC SHOULD CONTAIN AN ENOMARK.	4F11833
03710	0	50000	0	01112		CLA	1G	STORE N3	4F11834
03711	0	60100	0	01111		STO	1C+4	IN 1C+4.	4F11835
03712	-0	50000	0	01353		CAL	I	OBTAIN I IN LOG ACC AND	4F11836
03713	0	77100	0	00024		ARS	20	STORE IN POS 20 OF 1C	4F11837
03714	-0	60200	0	01105		ORS	1C	0 IF NUMERIC, OR 1 IF NON-NUMERIC.	4F11838
03715	0	07400	1	03321		TSX	TET00,1	* GO TO TET PROGRAM TO ENTER	4F11839
03716	0	00000	0	00001		PZE	1	1C,1C+1,...1C+4 IN TDO TABLE 1.	4F11840
03717	1	00000	0	03440		TXI	CA010,0	* EXIT TO PROCESS NEXT STATEMENT.	4F11841
									4F11842

```

END OF PROGRAM C0100.
*****
C0200/ CALLS=GETIFN,DIAG,TEST...,C0190,C0180,TET00,C0160,
CIT00,SS000(CSA000).
C0200 PROCESSES GO TO STATEMENTS.
03720 0 07400 4 02366 C0200 TSX GETIFN,4 * GET INTERNAL FORMULA NUMBER IN 1C 4F11843
03721 0 60100 0 01107 STO 1C+2 AND IN 1C+2. 4F11844
03722 0 07400 4 01707 TSX C0190,4 * OBTAIN IN ACC NEXT NB CHARACTER 4F11845
03723 0 34000 0 01417 CAS L(9) AND COMPARE IT WITH 9. 4F11846
D 03724 1 00000 0 03733 TXI C0205,0 IF NON-NUMERIC, GO COMPARE WITH (. 4F11847
03725 0 76100 0 00000 NOP IF NUMERIC, THEN 4F11848
03726 0 07400 2 01655 TSX C0180,2 * OBTAIN IN 1G THE BINARY EQUIV BETA. 4F11849
03727 0 07400 4 03271 TSX TESTD0,4 * THE AC SHOULD CONTAIN AN ENDMARK. 4F11850
03730 0 50000 0 01112 CLA 1G STORE BETA IN 1C+1 TO CONSTRUCT 4F11851
03731 0 60100 0 01106 STO 1C+1 THE 2ND WORD OF TIFGO TABLE ENTRY. 4F11852
D 03732 1 00000 0 04030 TXI C0202,0 GO TO ENTER 1C,1C+1 INTO TIFGO. 4F11853
D 03733 0 34000 0 01375 C0205 CAS ALPAR TEST CHARACTER FOR ALPHABETIC. 4F11854
D 03734 1 00000 0 03736 TXI C0210,0 IF NOT ALPHABETIC, THEN 4F11855
D 03735 1 00000 0 03746 TXI C0212,0 THIS IS TYPE= GO TO ( ), I. 4F11856
03736 0 07400 2 01624 C0210 TSX C0160,2 * TYPE= GO TO N,(),SO OBTAIN IN 1G N 4F11857
03737 0 07400 4 03305 TSX TESTG0,4 * WHICH SHOULD BE FOLLOWED BY COMMA. 4F11858
03740 0 50000 0 01112 CLA 1G SAVE THE SYMBOL N IN 1C+3 4F11859
03741 0 60100 0 01110 STO 1C+3 FOR COMPILED INSTRUCTION. 4F11860
03742 0 07400 4 01707 TSX C0190,4 * OBTAIN IN ACC NEXT NB CHARACTER, 4F11861
03743 0 07400 4 03275 TSX TESTE0,4 * WHICH SHOULD BE A LPAREN. 4F11862
03744 0 50000 0 01407 CLA L(1) PREPARE TO SET ADDRESS PART OF 1C 4F11863
03745 0 02000 0 03747 TRA C0213 TO 1 TO INDICATE CLASS OF TRANSFER. 4F11864
03746 0 50000 0 01410 C0212 CLA L(2) PREPARE TO SET ADDR OF 1C TO 2. 4F11865
03747 0 62100 0 01105 C0213 STA 1C STORE 1 OR 2 IN ADDR OF 1C. 4F11866
03750 -0 53400 2 04032 LXD CTRAD,2 OBTAIN 250-(NO. TRAD ENTRIES), AND 4F11867
03751 -0 75400 2 00000 PXD ,2 PLACE IN THE DECREMENT OF THE AC 4F11868
03752 0 60100 0 01106 STO 1C+1 AND STORE IN 1C+1. 4F11869
03753 0 07400 4 01707 C0215 TSX C0190,4 * OBTAIN IN ACC NEXT NB CHAR. 4F11870
03754 0 07400 2 01655 TSX C0180,2 * OBTAIN IN 1G THE BIN EQU OF BETA. 4F11871
03755 0 60100 0 01113 STO 2G SAVE CHAR IN ACC. 4F11872
03756 0 07400 1 03321 TSX TET00,1 * GO TO ENTER 1G 4F11873
03757 0 00000 0 00003 PZE 3 INTO TRAD TABLE (TABLE 3). 4F11874
03760 -0 53400 2 04032 LXD CTRAD,2 REDUCE COUNTER 4F11875
03761 2 00001 2 03762 TIX C0216,2,1 CTRAD 4F11876
03762 -0 63400 2 04032 C0216 SXD CTRAD,2 BY 1. 4F11877
03763 0 50000 0 01113 CLA 2G RESTORE CHAR TO ACC. 4F11878
03764 0 07400 4 03255 TSX TESTB0,4 * TEST FOR COMMA OR RPAREN. 4F11879
03765 -0 10000 0 03753 TNZ C0215 IF RIGHT PARENTHESIS, THEN 4F11880
03766 0 50000 0 04032 CLA CTRAD OBTAIN IN ADDR OF ACC 250-NO. OF 4F11881
03767 0 77100 0 00022 ARS 18 ENTRIES IN TRAD TABLE,AND STORE 4F11882
03770 0 62100 0 01106 STA 1C+1 IN ADDR OF 1C+1. 4F11883
03771 0 50000 0 01105 CLA 1C OBTAIN 1C IN ACC 4F11884
03772 0 76000 0 00001 LBT AND TEST LOW ORDER BIT. 4F11885
03773 0 02000 0 04004 TRA C0220 THIS IS A TYPE GO TO ( ),I FORMULA. 4F11886
03774 0 07400 4 01707 TSX C0190,4 * OBTAIN NEXT NB CHAR AND 4F11887
03775 0 07400 4 03271 TSX TESTD0,4 * TEST FOR ENDMK. 4F11888
03776 0 07400 4 01731 TSX CIT00,4 * GO MAKE THE FOLLOWING CIT ENTRY= 4F11889
03777 0 00000 0 01107 PZE 1C+2 WORD 1--DECR= INTFORMNO (LOCATION) 4F11890

```

04000	0	00000	0	01601	PZE L(TRA)	WORD 2--TRA000 (OP AND DECR)	4F11897
04001	0	00000	0	01110	PZE 1C+3	WORD 3--VARIABLE N (ADDRESS)	4F11898
04002	0	00000	0	01406	PZE L(0)	WORD 4--000000 (REL ADDR AND TAG).	4F11899
04003	0	02000	0	04030	TRA C0202	GO TO ENTER 1C,1C+1 INTO TIFGO.	4F11900
04004	0	07400	4	01707	TSX C0190,4	* EXAMINE NEXT NB CHARACTER,	4F11901
04005	0	07400	4	03305	TSX TESTG0,4	* WHICH SHOULD BE A COMMA.	4F11902
04006	0	07400	4	01707	TSX C0190,4	* OBTAIN IN ACC NEXT NB CHAR, AND	4F11903
04007	0	07400	2	01624	TSX C0160,2	* OBTAIN IN 1G THE FXD-PT. VARIABLE,	4F11904
04010	0	07400	4	03271	TSX TESTD0,4	* WHICH SHOULD BE FOLLOWED BY ENDMK.	4F11905
04011	0	50000	0	01407	CLA L(1)	PREPARE PROPER FORM OF SUBSCRIPT	4F11906
04012	0	60100	0	01131	STO E+3	COMBINATION AS	4F11907
04013	0	60100	0	01100	STO DIMCTR	INPUT TO SUBSCRIPT ANALYSIS=	4F11908
04014	0	50000	0	01112	CLA 1G	E+3 = 1ST COEFFICIENT,	4F11909
04015	0	60100	0	01132	STO E+4	E+4 = 1ST SUBSCRIPT VARIABLE,	4F11910
04016	0	60000	0	01137	STZ E+9	E+9 = ADDEND OF SUBSCRIPT,	4F11911
04017	0	07400	4	03027	TSX CSA000,4	* DIMCTR = DIMENSION OF VARIABLE.	4F11912
04020	0	50000	0	01126	CLA E	OUTPUT FROM CSA IS FOUND IN	4F11913
04021	0	77100	0	00030	ARS 24	E = 1--TAUTAG (GENERAL TAG) 1-11.	4F11914
04022	0	60100	0	01113	STO 2G	ADJUST AND SAVE FOR COMP. INSTR.	4F11915
04023	0	07400	4	01731	TSX CIT00,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F11916
04024	0	00000	0	01107	PZE 1C+2	WORD 1--DECR-INTFORMNO(LOCATION)	4F11917
04025	0	00000	0	01601	PZE L(TRA)	WORD 2--TRA000(OP AND DECR)	4F11918
04026	0	00000	0	01406	PZE L(0)	WORD 3--000000(ADDRESS)	4F11919
04027	0	00000	0	01113	PZE 2G	WORD 4--ADDR = TAUTAG FOR I	4F11920
					C0200= ENTRY POINT USED BY C0400,C1000.		4F11921
04030	0	07400	1	03321	TSX TET00,1	* GO TO TET TO ENTER 1C AND 1C+1	4F11922
04031	0	00000	0	00002	PZE 2	INTO TIFGO TABLE (TABLE 2).	4F11923
04032	1	00372	0	03440	CTRAD TXI CA010,0,250	* EXIT TO PROCESS NEXT STATEMENT.	4F11924
					END OF PROGRAM C0200.		4F11925
					*****		4F11926
					C0300/ CALLS=C0190X,C0190,C0390,TEST...,DIAG,C0180,TET00,		4F11927
					STATEB.		4F11928
					C0300 PROCESSES IF STATEMENTS.		4F11929
04033	-0	53400	4	00030	C0300 LXD EIFN0,4	PLACE THE CURRENT INTERNAL FORMULA	4F11931
04034	-0	75400	4	00000	PXD ,4	NUMBER IN THE DECREMENT OF 1C	4F11932
04035	-0	76000	0	00003	SSM	WITH SIGN SET TO MINUS	4F11933
04036	0	60100	0	01105	STO 1C	FOR FUTURE TIFGO ENTRY.	4F11934
04037	0	07400	4	01671	TSX C0190X,4	* SET CHCTR AND FWA TO BEGIN SCAN.	4F11935
04040	0	07400	4	01707	TSX C0190,4	* OBTAIN IN AC THE 1ST NB CHAR (I).	4F11936
04041	0	56000	0	01433	LDQ L(X)	REPLACE THE CHARACTER I	4F11937
04042	0	07400	4	01675	TSX C0390,4	* WITH THE CHARACTER X.	4F11938
04043	0	56000	0	01373	LDQ L(10)	REPLACE THE CHARACTER F	4F11939
04044	0	07400	4	01675	TSX C0390,4	* WITH THE CHARACTER 001010.	4F11940
04045	0	07400	4	03275	TSX TESTE0,4	* IF NOT LPAREN -- THEN ERROR.	4F11941
04046	0	56000	0	01400	LDQ AEQUAL	REPLACE THE CHARACTER LPAREN	4F11942
04047	0	07400	4	01675	TSX C0390,4	* WITH THE CHARACTER EQUAL.	4F11943
04050	0	53400	2	01407	LXA L(1),2	SET XR2 FOR COUNTING PARENTHESES.	4F11944
04051	0	02000	0	04053	TRA *+2		4F11945
04052	0	07400	4	01707	C0302 TSX C0190,4	* MAKE SURE THAT NEXT NB CHARACTER	4F11946
04053	0	34000	0	01374	CAS ENDMK	IS NOT AN ENDMARK.	4F11947
04054	0	02000	0	03272	TRA ERR77P	* MACHINE ERROR, GO TO DIAGNOSTIC.	4F11948
04055	0	07400	4	03400	TSX DIAG,4	* PROGRAM ERROR, GO TO DIAGNOSTIC.	4F11949
04056	0	34000	0	01375	CAS ALPAR	IF IT IS A LPAREN,	4F11950

D	04057	1	00000	0	04061	TXI	C0303,0	THEN ADD 1 TO PAREN COUNT, AND	4F11951
	04060	1	00001	2	04052	TXI	C0302,2,1	GO EXAMINE NEXT CHARACTER.	4F11952
	04061	0	40200	0	01377	C0303	SUB	ARPAR	4F11953
	04062	-0	10000	0	04052	TNZ	C0302	IF IT IS A RPAREN,	4F11954
	04063	2	00001	2	04052	TIX	C0302,2,1	THEN TEST PAREN COUNT, AND IF IT	4F11955
	04064	0	56000	0	01374	LDQ	ENDMK	CAN NOT BE REDUCED, MATE IS FOUND.	4F11956
	04065	0	07400	4	01675	TSX	C0390,4	SO REPLACE THE CHARACTER RPAREN	4F11957
	04066	0	07400	2	01655	TSX	C0180,2	* WITH THE CHARACTER ENDMK.	4F11958
	04067	0	07400	4	03305	TSX	TESTG0,4	* BINARY EQUIVALENT OF BETA 1.	4F11959
	04070	0	50000	0	01112	CLA	1G	* THIS SHOULD BE FOLLOWED BY A COMMA.	4F11960
	04071	0	62100	0	01105	STA	1C	MOVE BETA1	4F11961
	04072	0	07400	4	01707	TSX	C0190,4	TO ADDRESS OF 1C.	4F11962
	04073	0	07400	2	01655	TSX	C0180,2	* AND PROCEED TO FORM	4F11963
	04074	0	07400	4	03305	TSX	TESTG0,4	* THE BINARY EQUIVALENT OF BETA 2.	4F11964
	04075	0	50000	0	01112	CLA	1G	* THIS SHOULD BE FOLLOWED BY A COMMA.	4F11965
	04076	0	76700	0	00022	ALS	18	MOVE BETA2	4F11966
	04077	0	60100	0	01106	STO	1C+1	TO DECR PART	4F11967
	04100	0	07400	4	01707	TSX	C0190,4	OF 1C+1.	4F11968
	04101	0	07400	2	01655	TSX	C0180,2	* AND PROCEED TO FORM	4F11969
	04102	0	07400	4	03271	TSX	TESTD0,4	* THE BINARY EQUIVALENT OF BETA 3.	4F11970
	04103	0	50000	0	01112	CLA	1G	* THIS SHOULD BE FOLLOWED BY ENDMARK.	4F11971
	04104	0	62100	0	01106	STA	1C+1	MOVE BETA3	4F11972
D	04105	1	00000	0	02404	TXI	ARITH,0	TO ADDRESS OF 1C+1.	4F11973
							END OF PROGRAM C0300.	* EXIT TO ARITH FOR FINAL PROCESSING.	4F11974
							*****	4F11975	
							C0400/ CALLS=C0190,C0180,TEST...CIT00,C0200.	4F11976	
							C0400 PROCESSES IF (SENSE SWITCH STATEMENTS.	4F11977	
	04106	0	50000	0	01441	C0400	CLA L(112)	FOR SENSE SWITCH	4F11978
	04107	0	60100	0	01115		STO 1H	SET 1H TO 112, AND PREPARE TO	4F11979
	04110	0	50000	0	01565		CLA L(PSE)	SET 2H TO PSE.	4F11980
							C0401= ENTRY POINT USED BY C0500.	4F11981	
	04111	0	60100	0	01116	C0401	STO 2H	SET 2H FOR SENSE SWITCH OR LIGHT.	4F11982
	04112	0	07400	4	01707		TSX C0190,4	* PROCEED TO FORM THE BINARY	4F11983
	04113	0	07400	2	01655		TSX C0180,2	* EQUIVALENT OF SW OR SL NUMBER.	4F11984
	04114	0	07400	4	03301		TSX TESTF0,4	* THIS SHOULD BE FOLLOWED BY RPAREN.	4F11985
	04115	0	50000	0	01411		CLA L(3)	STORE 3	4F11986
	04116	0	60100	0	01105		STO 1C	IN ADDRESS OF 1C.	4F11987
	04117	0	50000	0	01112		CLA 1G	ADD THE PROPER INCREMENT TO THE	4F11988
	04120	0	40000	0	01115		ADD 1H	NUMBER OF SENSE SWITCH OR LIGHT.	4F11989
	04121	0	76700	0	00022		ALS 18	AND ADJUST TO THE DECREMENT.	4F11990
							C0402= ENTRY POINT USED BY C0600.	4F11991	
	04122	0	60100	0	01110	C0402	STO 1C+3	SET 1C+3 FOR CIT ENTRY.	4F11992
	04123	-0	53400	4	00030		LXD EIFNO,4	PLACE THE CURRENT INTERNAL FORMULA	4F11993
	04124	-0	75400	4	00000		PXD ,4	NUMBER IN THE DECREMENT OF	4F11994
	04125	0	62200	0	01105		STO 1C	1C FOR FUTURE TIFGO ENTRY, AND	4F11995
	04126	0	60100	0	01107		STO 1C+2	1C+2 FOR FUTURE CIT ENTRY.	4F11996
	04127	0	07400	4	01707		TSX C0190,4	* PROCEED TO FORM THE BINARY	4F11997
	04130	0	07400	2	01655		TSX C0180,2	* EQUIVALENT OF BETA 1,	4F11998
	04131	0	07400	4	03305		TSX TESTG0,4	* WHICH SHOULD BE FOLLOWED BY COMMA.	4F11999
	04132	0	50000	0	01112		CLA 1G	BRING UP,	4F12000
	04133	0	76700	0	00022		ALS 18	ADJUST AND	4F12001
	04134	0	60100	0	01106		STO 1C+1	STORE BETA1 IN DECR OF 1C+1.	4F12002
	04135	0	07400	4	01707		TSX C0190,4	* PROCEED TO FORM THE BINARY	4F12003
								4F12004	

04136	0	07400	2	01655	TSX C0180,2	* EQUIVALENT OF BETA 2,	4F12005
04137	0	07400	4	03271	TSX TESTD0,4	* WHICH SHOULD BE FOLLOWED BY ENDMK.	4F12006
04140	0	50000	0	01112	CLA 1G	BRING UP AND	4F12007
04141	0	62100	0	01106	STA 1C+1	STORE BETA2 IN ADDR OF 1C+1.	4F12008
04142	0	07400	4	01731	TSX CIT00,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12009
04143	0	00000	0	01107	PZE 1C+2	WORD1--DECR = INTFORMNO (LOCATION)	4F12010
04144	0	00000	0	01116	PZE 2H	WORD2--PSE,MSE,DCT,TOV,OR TQO.	4F12011
04145	0	00000	0	01406	PZE L(0)	WORD3--000000 (ADDRESS)	4F12012
04146	0	00000	0	01110	PZE 1C+3	WORD4--DECR=SS OR SL NO., OR 000000	4F12013
D 04147	1	00000	0	04030	TXI C0202,0	* MAKE TIFGO ENTRY, AND RETURN TO CA.	4F12014
					END OF PROGRAM C0400.		4F12015
					*****		4F12016
							4F12017
					C0500/ USES=C0400.		4F12018
					C0500 PROCESSES IF (SENSE LIGHT STATEMENTS.		4F12019
04150	0	50000	0	01440	CLA L(96)	STORE 96 IN	4F12020
04151	0	60100	0	01115	STO 1H	1H AND	4F12021
04152	0	50000	0	01563	CLA L(MSE)	OBTAIN (MSE000) IN ACC.	4F12022
04153	0	02000	0	04111	TRA C0401	* AND CONTINUE BY USING PROGRAM C04.	4F12023
					END OF PROGRAM C0500.		4F12024
					*****		4F12025
							4F12026
					C0600/ USES=C0400.		4F12027
					C0600 PROCESSES IF DIVIDE CHECK STATEMENTS.		4F12028
04154	0	50000	0	01545	CLA L(DCT)	STORE (DCT000)	4F12029
04155	0	60100	0	01116	STO 2H	IN 2H	4F12030
04156	0	50000	0	01412	CLA L(4)	AND PICK UP 4 TO SET 1C.	4F12031
					C0601= ENTRY POINT USED BY C0700.		4F12032
04157	0	60100	0	01105	STO 1C	SET 1C FOR FUTURE TIFGO ENTRY.	4F12033
04160	-0	75400	0	00000	PXD ,0	CLEAR THE AC,	4F12034
04161	0	02000	0	04122	TRA C0402	* AND CONTINUE BY USING PROGRAM C04.	4F12035
					END OF PROGRAM C0600.		4F12036
					*****		4F12037
							4F12038
					C0700/ USES C0600.		4F12039
					C0700 PROCESSES IF AC OVERFLOW STATEMENTS.		4F12040
04162	0	50000	0	01577	CLA L(TOV)	PICKUP TOV000 TO SET 2H.	4F12041
					C0701= ENTRY POINT USED BY C0800.		4F12042
04163	0	60100	0	01116	STO 2H	SET 2H FOR FUTURE CIT ENTRY.	4F12043
04164	0	50000	0	01413	CLA L(5)	PICKUP 5 TO SET 1C, AND	4F12044
04165	0	02000	0	04157	TRA C0601	* CONTINUE BY USING PROGRAM C06.	4F12045
					END OF PROGRAM C0700.		4F12046
					*****		4F12047
							4F12048
					C0800/ USES=C0700.		4F12049
					C0800 PROCESSES IF MQ OVERFLOW STATEMENTS.		4F12050
04166	0	50000	0	01600	CLA L(TQO)	PICKUP TQO000 TO SET 2H,	4F12051
04167	0	02000	0	04163	TRA C0701	* AND CONTINUE BY USING PROGRAM C07.	4F12052
					END OF PROGRAM C0800.		4F12053
					*****		4F12054
							4F12055
					C0900/ CALLS=C0190,CIT00,DIAG. CALLER=C1300.		4F12056
					C0900 PROCESSES PAUSE STATEMENTS.		4F12057
04170	-0	53400	2	04175	C0900 LXD C090X,2	SET XR2 FOR EXIT TO CA000.	4F12058

04171	0	60000	0	01112	C0901	STZ 1G	C0901= ENTRY POINT USED BY C1300.	4F12059
04172	0	07400	4	01707	C0902	TSX C0190,4	CLEAR 1G.	4F12060
04173	0	34000	0	01374		CAS ENDMK	* TEST NEXT NON-BLANK CHARACTER	4F12061
04174	0	02000	0	03272		TRA ERR77P	FOR END OF STATEMENT MARK.	4F12062
04175	1	74341	0	04202	C090X	TXI C0903,0,-CA010+1	* MACHINE ERROR, GO TO DIAGNOSTIC.	4F12063
04176	0	40000	0	01112		ADD 1G	IF NOT END OF STATEMENT, THEN	4F12064
04177	0	76700	0	00003		ALS 3	ADD 1G TO DIGIT,	4F12065
04200	0	60100	0	01112		STO 1G	MULTIPLY BY 8,	4F12066
04201	1	00000	0	04172		TXI C0902,0	AND STORE BACK IN 1G.	4F12067
04202	0	50000	0	01112	C0903	CLA 1G	CONTINUE UNTIL END OF STATEMENT.	4F12068
04203	0	76700	0	00017		ALS 15	THEN PLACE OCTAL ALPHA	4F12069
04204	0	60100	0	01105		STO 1C	IN THE DECREMENT	4F12070
04205	-0	53400	4	00030		LXD EIFNO,4	OF 1C FOR FUTURE CIT ENTRY.	4F12071
04206	-0	75400	4	00000		PXD ,4	PLACE THE CURRENT INTERNAL FORMULA	4F12072
04207	0	60100	0	01106		STO 1C+1	NUMBER IN THE DECREMENT	4F12073
04210	0	07400	4	01731		TSX CIT00,4	OF 1C+1, WITH ZEROS ELSEWHERE.	4F12074
04211	0	00000	0	01106		PZE 1C+1	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12075
04212	0	00000	0	01554		PZE L(HPR)	WORD1--DECR = INTFORMNO (LOCATION)	4F12076
04213	0	00000	0	01406		PZE L(0)	WORD2--HPR000 (OP AND DECR)	4F12077
04214	0	00000	0	01105		PZE 1C	WORD3--000000 (ADDRESS)	4F12078
04215	0	02000	2	00001		TRA 1,2	WORD4--DECR = ALPHA, REST ZEROS.	4F12079
							* EXIT TO CA000, OR TO C1300.	4F12080
						END OF PROGRAM C0900.		4F12081
						*****		4F12082
								4F12083
						C1000/ USES=C0200. CALLS=GETIFN,C0190,C0180,DIAG,C0160,TEST.		4F12084
						CIT00.		4F12085
						C1000 PROCESSES ASSIGN STATEMENTS.		4F12086
04216	0	07400	4	02366	C1000	TSX GETIFN,4	* GET INTERNAL FORMULA NUMBER IN 1C	4F12087
04217	0	60100	0	01107		STO 1C+2	AND 1C+2, WITH ZEROS ELSEWHERE.	4F12088
04220	0	50000	0	01414		CLA L(6)	STORE 6 IN	4F12089
04221	0	62100	0	01105		STA 1C	ADDRESS OF 1C.	4F12090
04222	0	07400	2	01654		TSX C0180X,2	* GO FORM BINARY EQUIV OF ALPHA.	4F12091
04223	0	40200	0	01432		SUB L(T)	IF NEXT CHARACTER IS NOT T, THEN	4F12093
04224	0	10000	0	04226		TZE *+2	THIS IS AN	4F12094
04225	0	07400	4	03400		TSX DIAG,4	* ERROR - GO TO THE DIAGNOSTIC.	4F12095
04226	0	07400	4	01707		TSX C0190,4	* EXAMINE NEXT NON-BLANK CHARACTER	4F12096
04227	0	40200	0	01425		SUB L(0)	AND IF IT IS NOT 0, THEN	4F12097
04230	-0	10000	0	04225		TNZ *-3	ERROR, GO TO DIAGNOSTIC.	4F12098
04231	0	50000	0	01112		CLA 1G	PUT BIN EQUIV OF ALPHA	4F12099
04232	0	60100	0	01106		STO 1C+1	IN ADDRESS OF 1C+1.	4F12100
04233	0	07400	4	01707		TSX C0190,4	* PROCEED TO ASSEMBLE IN 1G	4F12101
04234	0	07400	2	01624		TSX C0160,2	* THE SYMBOL N.	4F12102
04235	0	07400	4	03271		TSX TESTD0,4	* THE NEXT NB CHAR SHOULD BE ENDMK.	4F12103
04236	0	07400	4	01731		TSX CIT00,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12104
04237	0	00000	0	01107		PZE 1C+2	WORD1--DECR = INTFORMNO (LOCATION)	4F12105
04240	0	00000	0	01541		PZE L(CLA)	WORD2--CLA000 (OP AND DECR)	4F12106
04241	0	00000	0	01406		PZE L(0)	WORD3--000000 (ADDRESS)	4F12107
04242	0	00000	0	01406		PZE L(0)	WORD4--000000 (RELADDR AND TAG).	4F12108
04243	0	07400	4	01731		TSX CIT00,4	* STORE SECOND COMPILED INSTRUCTION=	4F12109
04244	0	00000	0	01406		PZE L(0)	WORD1--000000 (ALL ZEROS)	4F12110
04245	0	00000	0	01572		PZE L(STO)	WORD2--STO000 (OP AND DECR)	4F12111
04246	0	00000	0	01112		PZE 1G	WORD3--SYMBOL N (ADDRESS)	4F12112
04247	0	00000	0	01406		PZE L(0)	WORD4--000000 (REL ADDR AND TAG).	4F12113

04250 0 02000 0 04030

TRA C0202

\* CONTINUE BY USING PROGRAM C02.

4F12114

END OF PROGRAM C1000.

4F12115

\*\*\*\*\*

4F12116

C1100/ CALLS=C0190,C0180,TEST.,GETIFN,CIT00.

4F12118

C1100 PROCESSES SENSE LIGHT STATEMENTS.

4F12119

04251 0 07400 2 01654 C1100

TSX C0180X,2

\* GO FORM BINARY EQUIV OF SL NUMBER. 4F12120

04252 0 07400 4 03271

TSX TESTD0,4

\* THE NEXT NB CHARACTER SHD BE ENDMK. 4F12122

04253 0 50000 0 01112

CLA 1G

STORE SENSE LIGHT NUMBER 4F12123

04254 0 40000 0 01440

ADD L(96)

PLUS 96 4F12124

04255 0 76700 0 00022

ALS 18

IN DECR 4F12125

04256 0 60100 0 01112

STO 1G

OF 1G. 4F12126

04257 0 07400 4 02366

TSX GETIFN,4

\* GET INTERNAL FORMULA NUMBER IN 1C. 4F12127

04260 0 07400 4 01731

TSX CIT00,4

\* GO MAKE THE FOLLOWING CIT ENTRY= 4F12128

04261 0 00000 0 01105

PZE 1C

WORD1--DECR = INTFORMNO (LOCATION) 4F12129

04262 0 00000 0 01565

PZE L(PSE)

WORD2--PSE000 (OP AND DECREMENT) 4F12130

04263 0 00000 0 01406

PZE L(0)

WORD3--000000 (ADDRESS PART) 4F12131

04264 0 00000 0 01112

PZE 1G

WORD4--DECR = 96+ALPHA,REST ZEROS. 4F12132

0 04265 1 00000 0 03440

TXI CA010,0

\* EXIT TO PROCESS NEXT STATEMENT. 4F12133

END OF PROGRAM C1100.

4F12134

\*\*\*\*\*

4F12135

C1200/ CALLS=C0190,C0160,TEST.,DIM.SR,DIAG,C0180,DRTABS.

4F12137

C1200 PROCESSES DIMENSION STATEMENTS.

4F12138

04266 0 07400 4 01707 C1200

TSX C0190,4

\* PROCEED TO ASSEMBLE IN 1G 4F12139

04267 0 07400 2 01624

TSX C0160,2

\* THE VARIABLE SYMBOL. 4F12140

04270 0 07400 4 03275

TSX TESTE0,4

\* NEXT NB CHARACTER SHOULD BE LPAREN. 4F12141

04271 0 50000 0 01112

CLA 1G

PUT VARIABLE SYMBOL 4F12142

04272 0 60100 0 01105

STO 1C

IN 1C. 4F12143

04273 0 60100 0 01130

STO E+2

ALSO IN E+2. THEN 4F12144

04274 0 07400 4 01771

TSX DIM1SR,4

\* GO SEARCH DIM1 TABLE. 4F12145

04275 0 02000 0 04277

TRA C1280

THEN IF NOT 4F12146

04276 0 02000 0 04304

TRA C1299

FOUND, 4F12147

04277 0 07400 4 01775 C1280

TSX DIM2SR,4

\* GO SEARCH DIM2 TABLE. 4F12148

04300 0 02000 0 04302

TRA C1281

THEN IF NOT 4F12149

04301 0 02000 0 04304

TRA C1299

FOUND, 4F12150

04302 0 07400 4 02005 C1281

TSX DIM3SR,4

\* GO SEARCH DIM3 TABLE. 4F12151

04303 0 02000 0 04305

TRA C1282

DO NOT CONTINUE IF 4F12152

04304 0 07400 4 03400 C1299

TSX DIAG,4

\* VARIABLE PREVIOUSLY APPEARED. 4F12153

04305 0 07400 2 01654 C1282

TSX C0180X,2

\* GO FORM BINARY EQUIV OF D1. 4F12154

04306 0 40200 0 01377

SUB CLOS

IF NOT 1 DIMENSION, 4F12155

04307 0 10000 0 04330

TZE C1210

THEN 4F12157

04310 0 50000 0 01112

CLA 1G

PUT D1 4F12158

04311 0 76700 0 00022

ALS 18

IN DECR 4F12159

04312 0 60100 0 01106

STO 1C+1

OF 1C+1. 4F12160

04313 0 07400 2 01654

TSX C0180X,2

\* GO FORM BINARY EQUIV OF D2. 4F12161

04314 0 40200 0 01377

SUB CLOS

IF NOT 2 DIMENSION, 4F12163

04315 0 10000 0 04334

TZE C1220

THEN 4F12164

04316 0 50000 0 01112

CLA 1G

PUT D2 4F12165

04317 0 62100 0 01106

STA 1C+1

IN ADDRESS OF 1C+1. 4F12166

04320 0 07400 2 01654

TSX C0180X,2

\* GO FORM BINARY EQUIV OF D3. 4F12168

04321 0 40200 0 01377

SUB CLOS

IF MORE THAN 3 DIMENSION, 4F12169

04322 0 10000 0 04324

TZE \*+2

THIS IS AN 4F12170

04323 0 07400 4 03400

TSX DIAG,4

\* ERROR - GO TO THE DIAGNOSTIC. 4F12171

	04324	0	50000	0	01112		CLA 1G	IF 3 DIMENSION, PUT D3	4F12172
	04325	0	60100	0	01107		STO 1C+2	IN 1C+2, AND	4F12173
	04326	0	07400	4	00467		TSX DIM3IX,4	* GO MAKE DIM3 ENTRY.	4F12174
D	04327	1	00000	0	04337		TXI C1201,0	GO TO TEST FOR END OF STATEMENT.	4F12175
	04330	0	50000	0	01112	C1210	CLA 1G	IF 1 DIMENSION, PUT D1	4F12176
	04331	0	60100	0	01106		STO 1C+1	IN 1C+1, AND	4F12177
	04332	0	07400	4	00455		TSX DIM1IX,4	* GO MAKE DIM1 ENTRY. THEN	4F12178
D	04333	1	00000	0	04337		TXI C1201,0	GO TO TEST FOR END OF STATEMENT.	4F12179
	04334	0	50000	0	01112	C1220	CLA 1G	IF 2 DIMENSION, PUT D2 IN	4F12180
	04335	0	62100	0	01106		STA 1C+1	ADDRESS PART OF 1C+1. AND	4F12181
	04336	0	07400	4	00462		TSX DIM2IX,4	* GO MAKE DIM2 ENTRY. THEN	4F12182
	04337	0	07400	4	01707	C1201	TSX C0190,4	* OBTAIN NB CHAR FOLLOWING RPAREN.	4F12183
	04340	0	07400	4	03247		TSX TESTA0,4	* TEST FOR COMMA OR ENDMARK.	4F12184
	04341	-0	10000	0	04266		TNZ C1200	IF CHARACTER IS ENDMARK, THEN	4F12185
D	04342	1	00000	0	03440		TXI CA010,0	* EXIT TO PROCESS NEXT STATEMENT.	4F12186
							END OF PROGRAM C1200.		4F12187
							*****		*4F12188
							C1300/ CALLS=C0901,TET00,CIT00.		4F12189
							C1300 PROCESSES STOP STATEMENTS.		4F12190
	04343	0	07400	1	03321	C1300	TSX TET00,1	* GO MAKE EIFNO ENTRY	4F12191
	04344	0	00000	0	00017		PZE 15	IN TSTOP TABLE.	4F12192
	04345	0	07400	2	04171		TSX C0901,2	* USE C0900 TO BEGIN PROCESSING.	4F12193
	04346	0	07400	4	01731		TSX CIT00,4	* GO MAKE FOLLOWING CIT ENTRY=	4F12194
	04347	0	00000	0	01406		PZE L(0)	WORD1--ALL ZEROS	4F12195
	04350	0	00000	0	01601		PZE L(TRA)	WORD2--TRA000 (OP+DECR)	4F12196
	04351	0	00000	0	01106		PZE 1C+1	WORD3--DECR = INTFORMNO (SYMBOL)	4F12197
	04352	0	00000	0	01406		PZE L(0)	WORD4--ZEROS (REL ADDR AND TAG)	4F12198
D	04353	1	00000	0	03440		TXI CA010,0	* EXIT TO PROCESS NEXT STATEMENT.	4F12199
							END OF PROGRAM C1300.		4F12200
							*****		4F12201
							C1400/ CALLS=C0190,C0180,TEST.,TET00.		*4F12202
							C1400 PROCESSES FREQUENCY STATEMENTS.		4F12203
	04354	0	07400	2	01654	C1400	TSX C0180X,2	* GO FORM BINARY EQUIV OF EFN.	4F12204
	04355	0	07400	4	03275		TSX TESTE0,4	* CHARACTER SHOULD BE A LPAREN.	4F12205
	04356	0	50200	0	01112		CLS 1G	CHANGE SIGN OF SYMBOL	4F12206
	04357	0	60100	0	01112		STO 1G	TO MINUS.	4F12208
	04360	0	07400	1	03321		TSX TET00,1	* GO TO PROGRAM TET TO ENTER	4F12209
	04361	0	00000	0	00007		PZE 7	SYMBOL INTO FRET (TABLE 7), AND	4F12210
	04362	0	07400	2	01654	C1401	TSX C0180X,2	* GO FORM BINARY EQUIV OF M(1).	4F12211
	04363	0	60100	0	01105		STO 1C	SAVE CHAR IN ACC.	4F12212
	04364	0	07400	1	03321		TSX TET00,1	* GO TO PROGRAM TET TO ENTER M(1)	4F12213
	04365	0	00000	0	00007		PZE 7	INTO TABLE FRET (TABLE7), AND	4F12215
	04366	0	50000	0	01105		CLA 1C	RESTORE CHAR IN ACC, AND	4F12216
	04367	0	07400	4	03255		TSX TESTB0,4	* TEST FOR , OR ).	4F12217
	04370	-0	10000	0	04362		TNZ C1401	IF RIGHT PARENTHESIS, THEN	4F12218
	04371	0	07400	4	01707		TSX C0190,4	* OBTAIN IN ACC NEXT NBCHAR, AND	4F12219
	04372	0	07400	4	03247		TSX TESTA0,4	* TEST FOR COMMA OR ENDMARK.	4F12220
	04373	-0	10000	0	04354		TNZ C1400	IF ENDMARK, THIS STATEMENT IS DONE.	4F12221
D	04374	1	00000	0	03440		TXI CA010,0	* EXIT TO PROCESS NEXT STATEMENT.	4F12222
							END OF PROGRAM C1400.		4F12223
							*****		4F12224
									*4F12225
									4F12226
									4F12227



					C1500/ CALLS=C0190,TEST...C0160,C0180,TET00.	4F12228
					C1500 PROCESSES EQUIVALENCE STATEMENTS.	4F12229
	04375	0	07400	4	01707 C1500 TSX C0190,4	* OBTAIN NEXT NBCHAR IN ACC. 4F12230
	04376	0	07400	4	03275 TSX TESTE0,4	* CHARACTER SHOULD BE A LPAREN. 4F12231
	04377	0	50000	0	01407 C1501 CLA L(1)	INITIALIZE 1C 4F12232
	04400	0	60100	0	01106 STO 1C+1	TO 1. 4F12233
	04401	0	07400	4	01707 TSX C0190,4	* OBTAIN NEXT NBCHAR IN ACC AND 4F12234
	04402	0	07400	2	01624 TSX C0160,2	* OBTAIN IN 1G THE SYMBOL V. 4F12235
	04403	0	56000	0	01112 LDQ 1G	MOVE V 4F12236
	04404	-0	60000	0	01105 STQ 1C	INTO 1C. 4F12237
	04405	0	34000	0	01375 CAS ALPAR	EXAMINE CHARACTER LEFT IN THE AC, 4F12238
D	04406	1	00000	0	04416 TXI C1503,0	AND IF 4F12239
D	04407	1	00000	0	04411 TXI C1502,0	CHARACTER IS A LEFT PARENTHESIS, 4F12240
D	04410	1	00000	0	04416 TXI C1503,0	THEN 4F12241
	04411	0	07400	2	01654 C1502 TSX C0180X,2	* GO FORM BINARY EQUIV OF N. 4F12242
	04412	0	07400	4	03301 TSX TESTF0,4	* 1ST NON-NUMERIC SHOULD BE A RPAREN. 4F12244
	04413	0	50000	0	01112 CLA 1G	PUT BIN EQUIV OF N 4F12245
	04414	0	60100	0	01106 STO 1C+1	IN 1C+1. 4F12246
	04415	0	07400	4	01707 TSX C0190,4	* OBTAIN NEXT NBCHAR IN AC, AND 4F12247
	04416	0	07400	4	03255 C1503 TSX TESTB0,4	* TEST FOR COMMA OR RPAREN. 4F12248
	04417	0	10000	0	04423 TZE C1504	IF COMMA, THEN 4F12249
	04420	0	07400	1	03321 TSX TET00,1	* GO TO PROGRAM TET TO ENTER SYMBOL 4F12250
	04421	0	00000	0	00010 PZE 8	AND N IN EQUIT (TABLE 8), AND 4F12251
D	04422	1	00000	0	04377 TXI C1501,0	RETURN TO CONTINUE PROCESSING X. 4F12252
	04423	0	50200	0	01106 C1504 CLS 1C+1	MAKE SIGN OF N MINUS SINCE 4F12253
	04424	0	60100	0	01106 STO 1C+1	THIS IS LAST ITEM. 4F12254
	04425	0	07400	1	03321 TSX TET00,1	* GO TO PROGRAM TET TO ENTER SYMBOL 4F12255
	04426	0	00000	0	00010 PZE 8	AND N IN EQUIT (TABLE 8), AND 4F12256
	04427	0	07400	4	01707 TSX C0190,4	* OBTAIN NEXT NBCHAR IN ACC, AND 4F12257
	04430	0	07400	4	03247 TSX TESTA0,4	* TEST FOR COMMA OR ENDMARK. 4F12258
	04431	-0	10000	0	04375 TNZ C1500	IF ENDMARK, THEN 4F12259
D	04432	1	00000	0	03440 TXI CA010,0	* EXIT TO PROCESS NEXT STATEMENT. 4F12260
					END OF PROGRAM C1500.	4F12261
					*****	4F12262
						4F12263
					C1600/ CALLS=C0190,TEST...GIF,BSS.	4F12264
					C1600 PROCESSES CONTINUE STATEMENTS.	4F12265
	04433	0	07400	4	01707 C1600 TSX C0190,4	* OBTAIN NEXT NBCHAR IN ACC. 4F12266
	04434	0	07400	4	03271 TSX TESTD0,4	* CHARACTER SHOULD BE AN ENDMARK. 4F12267
	04435	0	07400	4	02375 TSX GIF,4	* GET INTERNAL FORMULA NUMBER, AND 4F12268
	04436	0	07400	2	05674 TSX BSS,2	* GO COMPILE= IFN BSS 0. 4F12269
D	04437	1	00000	0	03440 TXI CA010,0	* EXIT TO PROCESS NEXT STATEMENT. 4F12270
					END OF PROGRAM C1600.	4F12271
					*****	4F12272
						4F12273
					C3000/ CALLS=DIAG,C0190,C0160,TEST...SUBX00,TET00,TESTFX.	4F12274
					C3000 PROCESSES SUBROUTINE AND FUNCTION STATEMENTS.	4F12275
	04440	-0	50000	0	00422 C3500 CAL TXHOP	4F12276
	04441	0	63000	0	04454 STP C3003	4F12277
	04442	-0	53400	4	00030 C3000 LXD EIFNO,4	EXAMINE INTERNAL FORMULA NO., AND 4F12278
	04443	-3	00001	4	04445 TXL *+2,4,1	IF NOT THE 1ST STATEMENT, THEN 4F12279
	04444	0	07400	4	03400 TSX DIAG,4	* ERROR - GO TO THE DIAGNOSTIC. 4F12280
	04445	0	50000	0	01121 CLA ARGCNT	SET ARGCNT TO INDICATE TO LATER 4F12281
	04446	0	76000	0	00003 SSP	RETURN THAT THERE WAS A PRECEEDING 4F12282

	04447	0	60100	0	01121		STO	ARGCNT		SUBROUTINE OR FUNCTION STATEMENT.	4F12283
	04450	0	07400	4	01707		TSX	C0190,4		* IF 1ST CHARACTER OF NAME IS	4F12284
	04451	0	07400	4	03311		TSX	TESTH0,4		* NUMERIC, THEN GO TO THE DIAGNOSTIC.	4F12285
	04452	0	07400	2	01624		TSX	C0160,2		* ASSEMBLE NAME IN 1G.	4F12286
	04453	0	07400	4	03263		TSX	TESTC0,4		* NEXT CHAR SHD BE LPAREN OR ENDMARK.	4F12287
D	04454	-3	00000	0	04457	C3003	TXL	*+3,0			4F12288
	04455	0	50000	0	01112		CLA	1G			4F12289
	04456	0	60100	0	01332		STO	FSNAME			4F12290
	04457	0	07400	4	03224		TSX	SUBX00,4		* FILL OUT NAME WITH BLANKS.	4F12291
	04460	0	07400	1	03321		TSX	TET00,1		* GO ENTER NAME	4F12292
	04461	0	00000	0	00013		PZE	11		IN SUBDEF TABLE.	4F12293
	04462	-0	53400	4	00030		LXD	EIFNO,4		PLACE	4F12294
	04463	-0	75400	4	00000		PXD	,4		INTERNAL FORMULA NUMBER	4F12295
	04464	0	60100	0	01347		STO	G		IN G.	4F12296
D	04465	1	00000	0	04506		TXI	C3002,0		GO TEST FOR END OF STATEMENT.	4F12297
	04466	0	40000	0	01374	C3001	ADD	ENDMK		IF NOT ENDMARK, RESTORE CHARACTER	4F12298
	04467	0	07400	4	03311		TSX	TESTH0,4		* WHICH SHOULD BE NON-NUMERIC	4F12299
	04470	0	60100	0	01331		STO	FIRSTC		1ST CHARACTER OF ARGUMENT.	4F12300
	04471	0	07400	2	01624		TSX	C0160,2		* ASSEMBLE ARGUMENT IN 1G.	4F12301
	04472	0	07400	4	03255		TSX	TESTB0,4		* NEXT CHAR SHD BE COMMA OR RPAREN.	4F12302
	04473	0	50000	0	01112		CLA	1G		MOVE ARGUMENT	4F12303
	04474	0	60100	0	01350		STO	G+1		INTO G+1.	4F12304
	04475	0	07400	1	03241		TSX	TESTFX,1		* GO TEST FOR FIXED OR FLOATING PT.	4F12305
D	04476	1	00000	0	04501		TXI	C3004,0		IF FLOATING PT., SKIP FORVAL ENTRY.	4F12306
	04477	0	07400	1	03321		TSX	TET00,1		* IF FIXED POINT, GO MAKE ENTRY	4F12307
	04500	0	00000	0	00006		PZE	6		IN FORVAL TABLE.	4F12308
	04501	0	07400	1	03321	C3004	TSX	TET00,1		* IN BOTH CASES, MAKE ENTRIES IN	4F12309
	04502	0	00000	0	00013		PZE	11		SUBDEF TABLE.	4F12310
	04503	0	50000	0	01121		CLA	ARGCNT		UPDATE	4F12311
	04504	0	40000	0	01454		ADD	D1		ARGUMENT COUNT	4F12312
	04505	0	60100	0	01121		STO	ARGCNT		BY 1. AND	4F12313
	04506	0	07400	4	01707	C3002	TSX	C0190,4		* EXAMINE NEXT NON-BLANK CHARACTER.	4F12314
	04507	0	40200	0	01374		SUB	ENDMK		IF NOT ENDMARK, THEN	4F12315
	04510	-0	10000	0	04466		TNZ	C3001		GO PROCESS NEXT ARGUMENT.	4F12316
D	04511	1	00000	0	03440		TXI	CA010,0		* OTHERWISE, EXIT TO CA000.	4F12317
								END OF PROGRAM C3000.			4F12318
								*****			4F12319
								C3100/ CALLS=C0190,DIAG,TEST.,C0160,TET00.			4F12320
								C3100 PROCESSES COMMON STATEMENTS.			4F12321
	04512	0	07400	4	01707	C3100	TSX	C0190,4		* GET FIRST NON-BLANK CHAR OF SYMBOL	4F12322
	04513	0	07400	4	03311		TSX	TESTH0,4		* WHICH SHOULD BE NON-NUMERIC.	4F12323
	04514	0	07400	2	01624		TSX	C0160,2		* ASSEMBLE SYMBOL IN 1G, AND TEST	4F12324
	04515	0	07400	4	03247		TSX	TESTA0,4		* NEXT CHARACTER FOR COMMA OR ENDMK.	4F12325
	04516	0	73400	4	00000		PAX	,4		SAVE RESULT OF TEST IN XR4, AND	4F12326
	04517	0	07400	1	03321		TSX	TET00,1		* GO ENTER THIS SYMBOL	4F12327
	04520	0	00000	0	00014		PZE	12		IN COMMON TABLE.	4F12328
	04521	0	50000	0	00365		CLA	SBDFCN		ANY ENTRIES IN SUBDEF	4F12329
	04522	0	10000	0	04534		TZE	C3101		INDICATE THIS IS NOT A	4F123291
	04523	0	50000	0	01454		CLA	2E18		MAIN PROGRAM. SINCE THIS	4F123292
	04524	0	60100	0	01347		STO	G		IS A COMMON	4F123293
	04525	-0	50000	0	01112		CAL	1G		STATEMENT WHICH	4F123294
	04526	0	60200	0	01350		SLW	G+1		APPEARS IN A SUBPROGRAM	4F123296
	04527	0	77100	0	00036		ARS	30		ENTER ANY	4F123297
											4F123298

	04530	0	07400	1	03242		TSX TESTFX+1,1	* FIXED POINT	4F123299
	04531	0	02000	0	04534		TRA C3101	VARIABLES	4F12330
	04532	0	07400	1	03321		TSX TET00,1	* IN	4F123301
	04533	0	00000	0	00006		PZE 6	FORVAL TABLE.	4F123302
	04534	3	00000	4	04512	C3101	TXH C3100,4,0	IF CHARACTER WAS COMMA, REPEAT.	4F123303
D	04535	1	00000	0	03440		TXI CA010,0	* IF ENDMK, EXIT TO CA000.	4F12331
							END OF PROGRAM C3100.		4F12332
							*****		4F12333
							C3200/ CALLS=C0190,TEST.,,GETIFN,DIAG,CIT00,JIF(GIF).		4F12334
							C3200 PROCESSES RETURN STATEMENTS.		4F12335
	04536	0	07400	4	01707	C3200	TSX C0190,4	* EXAMINE NEXT NON-BLANK CHARACTER,	4F12336
	04537	0	07400	4	03271		TSX TESTD0,4	* WHICH SHOULD BE AN ENDMARK.	4F12337
	04540	0	07400	4	02366		TSX GETIFN,4	* GET INTERNAL FORMULA NUMBER IN 1C.	4F12338
	04541	0	07400	4	02372		TSX JIF,4	* SET SL TO ALPHA+1.	4F12339
	04542	0	50000	0	01121		CLA ARGCNT	TEST ARGCNT FOR PRECEEDING	4F12340
	04543	0	12000	0	04545		TPL **2	SUBROUTINE - IF NONE, THEN	4F12341
	04544	0	07400	4	03400		TSX DIAG,4	* ERROR - GO TO THE DIAGNOSTIC.	4F12342
	04545	0	50000	0	01332		CLA FSNAME		4F12343
	04546	0	10000	0	04555		TZE **7		4F12344
	04547	0	07400	4	01731		TSX CIT00,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12345
	04550	0	00000	0	01105		PZE 1C	WORD1--0(IFN)000	4F12346
	04551	0	00000	0	01541		PZE L(CLA)	WORD2--CLA000	4F12347
	04552	0	00000	0	01332		PZE FSNAME	WORD3--NAME OF FUNCTION	4F12348
	04553	0	00000	0	01406		PZE L(0)	WORD4--000000	4F12349
	04554	0	60000	0	01105		STZ 1C	CLEAR 1C.	4F12350
	04555	0	07400	4	01731		TSX CIT00,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12351
	04556	0	00000	0	01105		PZE 1C	WORD1--0(IFN)000	4F12352
	04557	0	00000	0	01561		PZE L(LXD)	WORD2--LXD000	4F12353
	04560	0	00000	0	01523		PZE DOLSGN	WORD3--\$	4F12354
	04561	0	00000	0	01407		PZE L(1)	WORD4--000001	4F12355
	04562	0	07400	4	01731		TSX CIT00,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12356
	04563	0	00000	0	01406		PZE L(0)	WORD1--000000	4F12357
	04564	0	00000	0	01561		PZE L(LXD)	WORD2--LXD000	4F12358
	04565	0	00000	0	01523		PZE DOLSGN	WORD3--\$	4F12359
	04566	0	00000	0	01456		PZE ABTAG2	WORD4--001002	4F12360
	04567	0	07400	4	01731		TSX CIT00,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12361
	04570	0	00000	0	01406		PZE L(0)	WORD1--000000	4F12362
	04571	0	00000	0	01570		PZE L(QXD)	WORD2--QXD000	4F12363
	04572	0	00000	0	01523		PZE DOLSGN	WORD3--\$	4F12364
	04573	0	00000	0	01460		PZE ABTAG3	WORD4--002000	4F12365
	04574	0	07400	4	01731		TSX CIT00,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12366
	04575	0	00000	0	01367		PZE SL	WORD1--0(IFN+1)000	4F12367
	04576	0	00000	0	01567		PZE L(QPR)	WORD2--QPR000	4F12368
	04577	0	00000	0	01406		PZE L(0)	WORD3--000000	4F12369
	04600	0	00000	0	01121		PZE ARGCNT	WORD4--0(IN+1)004	4F12370
	04601	0	07400	4	01731		TSX CIT00,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12371
	04602	0	00000	0	01406		PZE L(0)	WORD1--000000	4F12372
	04603	0	00000	0	01601		PZE L(TRA)	WORD2--TRA000	4F12373
	04604	0	00000	0	01367		PZE SL	WORD3--0(IFN+1)000	4F12374
	04605	0	00000	0	01406		PZE L(0)	WORD4--000000	4F12375
D	04606	1	00000	0	03440		TXI CA010,0	* EXIT TO PROCESS NEXT STATEMENT.	4F12376
							END OF PROGRAM C3200.		4F12377
							*****		4F12378
									4F12379

Address	Op	Op2	Op3	Op4	Op5	Op6	Op7	Op8	Op9	Op10	Op11	Op12	Op13	Op14	Op15	Op16	Op17	Op18	Op19	Op20	Op21	Op22	Op23	Op24	Op25	Op26	Op27	Op28	Op29	Op30	Op31	Op32	Op33	Op34	Op35	Op36	Op37	Op38	Op39	Op40	Op41	Op42	Op43	Op44	Op45	Op46	Op47	Op48	Op49	Op50	Op51	Op52	Op53	Op54	Op55	Op56	Op57	Op58	Op59	Op60	Op61	Op62	Op63	Op64	Op65	Op66	Op67	Op68	Op69	Op70	Op71	Op72	Op73	Op74	Op75	Op76	Op77	Op78	Op79	Op80	Op81	Op82	Op83	Op84	Op85	Op86	Op87	Op88	Op89	Op90	Op91	Op92	Op93	Op94	Op95	Op96	Op97	Op98	Op99	Op100	Op101	Op102	Op103	Op104	Op105	Op106	Op107	Op108	Op109	Op110	Op111	Op112	Op113	Op114	Op115	Op116	Op117	Op118	Op119	Op120	Op121	Op122	Op123	Op124	Op125	Op126	Op127	Op128	Op129	Op130	Op131	Op132	Op133	Op134	Op135	Op136	Op137	Op138	Op139	Op140	Op141	Op142	Op143	Op144	Op145	Op146	Op147	Op148	Op149	Op150	Op151	Op152	Op153	Op154	Op155	Op156	Op157	Op158	Op159	Op160	Op161	Op162	Op163	Op164	Op165	Op166	Op167	Op168	Op169	Op170	Op171	Op172	Op173	Op174	Op175	Op176	Op177	Op178	Op179	Op180	Op181	Op182	Op183	Op184	Op185	Op186	Op187	Op188	Op189	Op190	Op191	Op192	Op193	Op194	Op195	Op196	Op197	Op198	Op199	Op200	Op201	Op202	Op203	Op204	Op205	Op206	Op207	Op208	Op209	Op210	Op211	Op212	Op213	Op214	Op215	Op216	Op217	Op218	Op219	Op220	Op221	Op222	Op223	Op224	Op225	Op226	Op227	Op228	Op229	Op230	Op231	Op232	Op233	Op234	Op235	Op236	Op237	Op238	Op239	Op240	Op241	Op242	Op243	Op244	Op245	Op246	Op247	Op248	Op249	Op250	Op251	Op252	Op253	Op254	Op255	Op256	Op257	Op258	Op259	Op260	Op261	Op262	Op263	Op264	Op265	Op266	Op267	Op268	Op269	Op270	Op271	Op272	Op273	Op274	Op275	Op276	Op277	Op278	Op279	Op280	Op281	Op282	Op283	Op284	Op285	Op286	Op287	Op288	Op289	Op290	Op291	Op292	Op293	Op294	Op295	Op296	Op297	Op298	Op299	Op300	Op301	Op302	Op303	Op304	Op305	Op306	Op307	Op308	Op309	Op310	Op311	Op312	Op313	Op314	Op315	Op316	Op317	Op318	Op319	Op320	Op321	Op322	Op323	Op324	Op325	Op326	Op327	Op328	Op329	Op330	Op331	Op332	Op333	Op334	Op335	Op336	Op337	Op338	Op339	Op340	Op341	Op342	Op343	Op344	Op345	Op346	Op347	Op348	Op349	Op350	Op351	Op352	Op353	Op354	Op355	Op356	Op357	Op358	Op359	Op360	Op361	Op362	Op363	Op364	Op365	Op366	Op367	Op368	Op369	Op370	Op371	Op372	Op373	Op374	Op375	Op376	Op377	Op378	Op379	Op380	Op381	Op382	Op383	Op384	Op385	Op386	Op387	Op388	Op389	Op390	Op391	Op392	Op393	Op394	Op395	Op396	Op397	Op398	Op399	Op400	Op401	Op402	Op403	Op404	Op405	Op406	Op407	Op408	Op409	Op410	Op411	Op412	Op413	Op414	Op415	Op416	Op417	Op418	Op419
---------	----	-----	-----	-----	-----	-----	-----	-----	-----	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

04665	0	60100	2	00036	STO	END11+5,2	IF 0 OR 1, SET PROPER SIMULATOR.	4F12434
04666	0	07400	4	01707	TSX	C0190,4	* SKIP NEXT NON-BLANK CHARACTER, AND	4F12435
04667	2	00001	2	04661	TIX	C3405,2,1	REPEAT PROCESS FOR 5 CONSTANTS.	4F12436
04670	0	07400	4	01707	TSX	C0190,4	* EXAMINE NEXT NON-BLANK CHARACTER,	4F12437
04671	0	07400	4	03271	TSX	TESTD0,4	* WHICH SHOULD BE AN ENDMK.	4F12438
04672	1	00000	0	03440	TXI	CA010,0	* EXIT TO PROCESS NEXT STATEMENT.	4F12439
						END OF PROGRAM C3400.		4F12440
						*****		4F12441
						STATEA/3-PROCESS INPUT-OUTPUT STATEMENTS=		4F12442
						*****		4F12443
								4F12444
								4F12445
						RDC/ CALLS=INPUT,BEG,DIAG,ETMSW,LIB,CIT,JIF.		4F12446
						RDC PROCESSES READ STATEMENTS.		4F12447
04673	0	50000	0	01437	CLA	A81	SET THE ADDRESS FIELD OF	4F12448
04674	0	62100	0	02067	STA	ENT	ENT (NTR000) TO 81.	4F12449
04675	0	07400	2	06002	TSX	INPUT,2	* GO COMPILER CAL *, AND XIT (LEV).	4F12450
04676	0	50000	0	06127	CLA	CSH	PICKUP (CSH) TO	4F12451
						TSC= ENTRY POINT USED BY RIT.		4F12452
04677	0	60100	0	06143	STO	TSA	SET TSA.	4F12453
04700	-0	50000	0	06133	CAL	RTN	MOVE (RTN)	4F12454
04701	0	60200	0	06141	SLW	END	INTO END.	4F12455
04702	0	50000	0	06130	CLA	DBC	PICKUP (DBC) TO	4F12456
						TTC= ENTRY POINT USED BY RDP.		4F12457
04703	0	60100	0	06144	STO	TTA	SET TTA.	4F12458
04704	0	07400	4	05603	TSX	BEG,4	* CONVERT CONSTANT FORMAT NUMBER.	4F12459
04705	0	07400	4	03400	TSX	DIAG,4	* ATTEMPT TO USE VARIABLE FORMAT NO.	4F12460
04706	-0	10000	4	00004	TNZ	4,4	GO TO THE DIAGNOSTIC, IF THERE WAS	4F12461
04707	0	07400	4	03400	TSX	DIAG,4	* NO FORMAT NUMBER GIVEN.	4F12462
04710	0	62100	0	01366	STA	SET	MOVE BINARY FORMAT NUMBER INTO SET.	4F12463
04711	-0	50000	0	06114	CAL	NTR	MOVE NTR000	4F12464
04712	0	60200	0	07401	SLW	OP	INTO OP.	4F12465
04713	0	50000	0	00415	CLA	TXLOP	SET OP-SWITCHES,	4F12466
04714	0	63000	0	05754	STP	ETMSW	ETMSW AND LTMSW,	4F12467
04715	0	63000	0	05757	STP	LTMSW	TO NO TRANSFER CASE.	4F12468
04716	0	07400	4	05754	TSX	ETMSW,4	* GO COMPILER ETM.	4F12469
04717	0	07400	4	06023	TSX	LIB,4	* MAKE CLOSUB ENTRY, AND COMPILE=	4F12470
04720	0	00000	0	01406	PZE	L(0)	WORD1--000000	4F12471
04721	0	00000	0	01537	PZE	CAL	WORD2--CAL000	4F12472
04722	0	00000	0	06144	PZE	TTA	WORD3--(DBC) OR (BDC)	4F12473
04723	0	00000	0	01406	PZE	L(0)	WORD4--000000	4F12474
04724	0	07400	4	01731	TSX	CIT,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12475
04725	0	00000	0	01406	PZE	L(0)	WORD1--000000	4F12476
04726	0	00000	0	06120	PZE	SLW	WORD2--SLW000	4F12477
04727	0	00000	0	01406	PZE	L(0)	WORD3--000000	4F12478
04730	0	00000	0	01454	PZE	D1	WORD4--001000	4F12479
04731	0	07400	4	06023	TSX	LIB,4	* MAKE CLOSUB ENTRY, AND COMPILE=	4F12480
04732	0	00000	0	01406	PZE	L(0)	WORD1--000000	4F12481
04733	0	00000	0	01537	PZE	CAL	WORD2--CAL000	4F12482
04734	0	00000	0	06143	PZE	TSA	WORD3--(CSH) OR (TSH)	4F12483
04735	0	00000	0	01406	PZE	L(0)	WORD4--000000	4F12484
04736	0	07400	4	01731	TSX	CIT,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12485
04737	0	00000	0	01371	PZE	TL	WORD1--0(IFN)0(248)	4F12486
								4F12487

04740	0	00000	0	02067	PZE ENT	WORD2--NTR0(81, OR UNIT, OR 00)	4F12488
04741	0	00000	0	01366	PZE SET	WORD3--800(FORMAT NUMBER)	4F12489
04742	0	00000	0	01406	PZE L(0)	WORD4--000000	4F12490
04743	0	07400	4	02372	TSX JIF,4	* GO JUMP IFN, AND SET SL AND TL.	4F12491
					BXT = EXIT SWITCH TO RSC OR LAST, USED BY WBT,RBT,WRD.		4F12492
D	04744	1	00000	0	05141 BXT	TXI RSC,0	* EXIT TO SCAN LIST, IF THERE IS ONE.4F12493
					END OF PROGRAM RDC.		4F12494
					*****		4F12495
							4F12496
					RIT/ CALLS=INPUT,BEG,VRD. USES=RDC.		4F12497
					RIT PROCESSES READ INPUT TAPE STATEMENTS.		4F12498
04745	0	07400	2	06002 RIT	TSX INPUT,2	* GO COMPILE CAL *, AND XIT (LEV).	4F12499
04746	0	07400	4	05603	TSX BEG,4	* SCAN AND TEST TYPE OF UNIT SYMBOL.	4F12500
04747	0	07400	4	06036	TSX VRD,4	* IF VARIABLE, ENTER FORVAR AND CITS.	4F12501
04750	0	62100	0	02067	STA ENT	IF CONSTANT, SET ENT= NTR0(UNIT).	4F12502
04751	0	50000	0	06137	CLA TSH	PICKUP (TSH) TO SET TSA, AND	4F12503
D	04752	1	00000	0	04677	TXI TSC,0	* CONTINUE BY USING PROGRAM RDC.
					END OF PROGRAM RIT.		4F12504
					*****		4F12505
							4F12506
					RDP/ CALLS=OUTPUT. USES=RDC.		4F12507
					RDP PROCESSES PRINT STATEMENTS.		4F12508
04753	-0	75400	0	00000 RDP	PXD ,0	RESET ENT	4F12509
04754	0	62100	0	02067	STA ENT	TO NTR000.	4F12510
04755	0	07400	2	06004	TSX OUTPUT,2	* GO COMPILE CAL *, AND XIT (LEV).	4F12511
04756	0	50000	0	06135	CLA SPH	PICKUP (SPH), AND	4F12512
					TSD= ENTRY POINT USED BY WOT, PDC.		4F12513
04757	0	60100	0	06143 TSD	STO TSA	SET TSA.	4F12514
04760	-0	50000	0	06131	CAL FIL	MOVE (FIL)	4F12515
04761	0	60200	0	06141	SLW END	INTO END.	4F12516
04762	0	50000	0	06126	CLA BDC	PICKUP (BDC) TO SET TTA, AND	4F12517
D	04763	1	00000	0	04703	TXI TTC,0	* CONTINUE BY USING PROGRAM RDC.
					END OF PROGRAM RDP.		4F12518
					*****		4F12519
							4F12520
					WOT/ CALLS=OUTPUT,BEG,VRD. USES=RDP.		4F12521
					WOT PROCESSES WRITE OUTPUT TAPE STATEMENTS.		4F12522
04764	0	07400	2	06004 WOT	TSX OUTPUT,2	* GO COMPILE CAL *, AND XIT (LEV).	4F12523
04765	0	07400	4	05603	TSX BEG,4	* SCAN AND TEST TYPE OF UNIT SYMBOL.	4F12524
04766	0	07400	4	06036	TSX VRD,4	* IF VARIABLE, ENTER FORVAR AND CITS.	4F12525
04767	0	62100	0	02067	STA ENT	IF CONSTANT, SET ENT= NTR0(UNIT).	4F12526
04770	0	50000	0	06136	CLA STH	PICKUP (STH) TO SET TSA, AND	4F12527
D	04771	1	00000	0	04757	TXI TSD,0	* CONTINUE BY USING PROGRAM RDP.
					END OF PROGRAM WOT.		4F12528
					*****		4F12529
							4F12530
					PDC/ CALLS=OUTPUT. USES=RDP.		4F12531
					PDC PROCESSES PUNCH STATEMENTS.		4F12532
04772	-0	75400	0	00000 PDC	PXD ,0	RESET ENT	4F12533
04773	0	62100	0	02067	STA ENT	TO NTR000.	4F12534
04774	0	07400	2	06004	TSX OUTPUT,2	* GO COMPILE CAL *, AND XIT (LEV).	4F12535
04775	0	50000	0	06134	CLA SCH	PICKUP (SCH) TO SET TSA, AND	4F12536
D	04776	1	00000	0	04757	TXI TSD,0	* CONTINUE BY USING PROGRAM RDP.
					END OF PROGRAM PDC.		4F12537
							4F12538
							4F12539
							4F12540
							4F12541

					*****		*4F12542
							4F12543
					WBT/ CALLS=OUTPUT,BRW,CIT.		4F12544
					WBT PROCESSES WRITE TAPE STATEMENTS.		4F12545
					CAL WTB	MOVE WT8000	4F12546
					SLW OP	INTO OP.	4F12547
					TSX OUTPUT,2	* GO COMPILE CAL *, AND XIT (LEV).	4F12548
					CAL BTA	PICKUP BINARY TAPE ADDRESS, AND	4F12549
					TSX BRW,4	* COMPILE INSTRS TO SET UNIT DESIG.	4F12550
					TSX CIT,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12551
					PZE L(0)	WORD1--000000	4F12552
					PZE CPY	WORD2--CPY000	4F12553
					PZE ZER	WORD3--600000	4F12554
					PZE D2	WORD4--002000	4F12555
					TXI BXT,0	* EXIT TO SCAN LIST, IF THERE IS ONE.	4F12556
					END OF PROGRAM WBT.		4F12557
					*****		*4F12558
							4F12559
					RBT/ CALLS=INPUT,BRW,CIT.		4F12560
					RBT PROCESSES READ TAPE STATEMENTS.		4F12561
					CAL RTB	MOVE RT8000	4F12562
					SLW OP	INTO OP.	4F12563
					TSX INPUT,2	* GO COMPILE CAL *, AND XIT (LEV).	4F12564
					CAL BTA	PICKUP BINARY TAPE ADDRESS, AND	4F12565
					TSX BRW,4	* COMPILE INSTRS TO SET UNIT DESIG.	4F12566
					TSX CIT,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12567
					PZE L(0)	WORD1--000000	4F12568
					PZE CPY	WORD2--CPY000	4F12569
					PZE DMP	WORD3--100000	4F12570
					PZE L(0)	WORD4--000000	4F12571
					TSX CIT,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12572
					PZE L(0)	WORD1--000000	4F12573
					PZE XIT	WORD2--XIT000	4F12574
					PZE 15P	WORD3--*00000	4F12575
					PZE D3CN	WORD4--003000	4F12576
					TSX CIT,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12577
					PZE L(0)	WORD1--000000	4F12578
					PZE HPR	WORD2--HPR000	4F12579
					PZE L(0)	WORD3--000000	4F12580
					PZE L(0)	WORD4--000000	4F12581
					TSX CIT,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F12582
					PZE L(0)	WORD1--000000	4F12583
					PZE XIT	WORD2--XIT000	4F12584
					PZE TL	WORD3--0(IFN)0(248)	4F12585
					PZE L(0)	WORD4--000000	4F12586
					TXI BXT,0	* EXIT TO SCAN LIST, IF THERE IS ONE.	4F12587
					END OF PROGRAM RBT.		4F12588
					*****		*4F12589
							4F12590
					WRD/ CALLS=OUTPUT,BRW,CIT.		4F12591
					WRD PROCESSES WRITE DRUM STATEMENTS.		4F12592
					TSX OUTPUT,2	* GO COMPILE CAL *, AND XIT (LEV).	4F12593
					CAL WDR	PICKUP WDR000, AND	4F12594
					XDR= ENTRY POINT USED BY RDD.		4F12595
04777	-0	50000	0	06124	WBT		
05000	0	60200	0	07401			
05001	0	07400	2	06004			
05002	-0	50000	0	01475			
05003	0	07400	4	05646			
05004	0	07400	4	01731			
05005	0	00000	0	01406			
05006	0	00000	0	01544			
05007	0	00000	0	01504			
05010	0	00000	0	01457			
05011	1	00000	0	04744			
05012	-0	50000	0	06117	RBT		
05013	0	60200	0	07401			
05014	0	07400	2	06002			
05015	-0	50000	0	01475			
05016	0	07400	4	05646			
05017	0	07400	4	01731			
05020	0	00000	0	01406			
05021	0	00000	0	01544			
05022	0	00000	0	01500			
05023	0	00000	0	01406			
05024	0	07400	4	01731			
05025	0	00000	0	01406			
05026	0	00000	0	06125			
05027	0	00000	0	01510			
05030	0	00000	0	01461			
05031	0	07400	4	01731			
05032	0	00000	0	01406			
05033	0	00000	0	01554			
05034	0	00000	0	01406			
05035	0	00000	0	01406			
05036	0	07400	4	01731			
05037	0	00000	0	01406			
05040	0	00000	0	06125			
05041	0	00000	0	01371			
05042	0	00000	0	01406			
05043	1	00000	0	04744			
05044	0	07400	2	06004	WRD		
05045	-0	50000	0	06122			





				BSP/ USES=EFT.		4F12650
				BSP PROCESSES BACKSPACE TAPE STATEMENTS.		4F12651
				CAL BST	PICKUP BST000 TO SET OP, AND	4F12652
D	05111	-0 50000 0 06111	BSP	TXI TPO,0	* CONTINUE BY USING PROGRAM EFT.	4F12653
	05112	1 00000 0 05067		END OF PROGRAM BSP.		4F12654
				*****		4F12655
				FOR/ CALLS=TET00.		4F12657
				FOR PROCESSES FORMAT STATEMENTS.		4F12658
	05113	-0 50000 0 00030	FOR	CAL EIFNO	MOVE EXTERNAL FORMULA NUMBER	4F12659
	05114	0 62100 0 01366		STA SET	INTO THE ADDRESS OF SET,	4F12660
	05115	-0 50000 0 01366		CAL SET	AND MOVE SET (8000(EFN))	4F12661
	05116	0 60200 0 01347		SLW G	INTO G.	4F12662
	05117	-0 53400 1 01724		LXD CHCTR,1	SET XR1 = CHARACTER COUNT.	4F12663
	05120	-0 53400 2 01614		LXD FWA,2	SET XR2 = -(CURRENT F-WORD ADDR).	4F12664
	05121	-3 00001 1 05137		TXL NFFW,1,1	UNLESS POSITIONED AT THE	4F12665
	05122	1 77777 1 05123		TXI *+1,1,-1	BEGINNING OF A FORMAT WORD,	4F12666
	05123	0 56000 0 01365		LDQ RESIDU	THEN PICKUP AND	4F12667
	05124	-0 50000 0 01526		CAL BLANKS	PRECEED WITH BLANKS ANY	4F12668
	05125	-0 76300 0 00006	NFC	LGL 6	CHARACTERS	4F12669
	05126	2 00001 1 05125		TIX NFG,1,1	REMAINING IN THE MQ, AND	4F12670
	05127	0 60200 0 01350	NFW	SLW G+1	MOVE FORMAT WORDS INTO G+1.	4F12671
	05130	0 07400 1 03321		TSX TET00,1	* GO ENTER THEN IN	4F12672
	05131	0 00000 0 00012		PZE 10	THE FORMAT TABLE.	4F12673
	05132	-0 50000 0 01350		CAL G+1	WHEN THE	4F12674
	05133	-0 32000 0 01374		ANA ENDMK	END OF STATEMENT MARK	4F12675
	05134	0 40200 0 01374		SUB ENDMK	HAS BEEN ENTERED.	4F12676
	05135	0 10000 0 03440		TZE CA010	* EXIT TO PROCESS NEXT STATEMENT.	4F12677
	05136	0 60000 0 01347		STZ G	PRECEED ALL BUT 1ST ENTRY WITH 0.	4F12678
	05137	-0 50000 2 00000	NFFW	CAL 0,2	PICKUP NEXT FORMAT WORD,	4F12679
	05140	1 77777 2 05127		TXI NFW,2,-1	UPDATE SCAN INDEX, AND CONTINUE.	4F12680
				END OF PROGRAM FOR.		4F12681
				*****		4F12682
				RSC/ CALLS=C0190,DIAG.		4F12683
				RSC SCANS EACH CHARACTER IN A STATEMENT UNTIL EQUALITY IS		4F12684
				FOUND ON ONE OF THE PUNCTUATION MARKS IN THE CTEST BLOCK IN		4F12685
				COMMON. THEN A TAGGED EXIT IS MADE THROUGH THE BLOCK OF		4F12686
				CONTROL TRANSFERS INDICATED BY THE ADDRESS STORED IN CEXIT.		4F12687
				RSC = ENTRY POINT FROM THE BXT SWITCH IN RDC, AND FROM SPC.		4F12688
	05141	-0 50000 0 05361	RSC	CAL FLINE	RESET TEMPORARY	4F12689
	05142	0 62100 0 01372		STA TLINE	TABLE LINE COUNTER.	4F12690
	05143	0 60000 0 07400		STZ DOLEV	CLEAR DO LEVEL COUNTER.	4F12691
	05144	0 60000 0 01351		STZ GTAG	CLEAR GENERALIZED TAG.	4F12692
				LSC = ENTRY POINT FROM SPC.		4F12693
	05145	-0 50000 0 05204	LSC	CAL LISTR	SET CONTROL TRANSFER	4F12694
				CXS = ENTRY POINT FROM EQS, BEG.		4F12695
	05146	0 62100 0 05156	CXS	STA CEXIT	FOR LIST SCAN.	4F12696
				NXS = ENTRY POINT FROM LPR, SPC, CMA.		4F12697
	05147	0 53400 2 01414	NXS	LXA L(6),2	RESET SYMBOL CHARACTER COUNT	4F12698
	05150	-0 63400 2 05637		SXD CSJ,2	AND SHIFT COUNT.	4F12699
	05151	0 60000 0 07404		STZ SYM	CLEAR SYMBOL WORKING STORAGE.	4F12700
				NXC = ENTRY POINT FROM CMA.		4F12701
	05152	0 07400 4 01707	NXC	TSX C0190,4	* OBTAIN NEXT NB CHARACTER IN THE AC.	4F12702
	05153	0 53400 4 02652	CLOAD	LXA CTESTX,4	SET XR4 TO PICK CONTROL CHARACTERS.	4F12703

```

D 05154 0 34000 4 01406 CCOMP CAS CTEST,4 COMPARE CHARACTER WITH CONSTANTS. 4F12705
05155 -3 00000 0 05160 TXL BUILD,0 IF EQUALITY IS FOUND ON SOME 4F12706
05156 0 02000 4 00000 CEXIT TRA **,4 * CONTROL CHAR, EXIT TO TRA LIST. 4F12707
05157 2 00001 4 05154 TIX CCOMP,4,1 CONTINUE THROUGH PUNCTUATION. 4F12708
05160 -0 53400 4 05637 BUILD LXD CSJ,4 BUILD A 4F12709
05161 0 60100 4 07316 STO CHR,4 SYMBOL 4F12710
05162 -2 00001 4 05167 TNX LCT,4,1 COMPOSED OF 4F12711
05163 0 76700 2 00044 ALS 36,2 SIX OR LESS CHARACTERS. 4F12712
05164 -0 63400 4 05637 CSZ SXD CSJ,4 SAVE SYMBOL CHARACTER COUNT. 4F12713
05165 -0 60200 0 07404 ORS SYM ALSO, SAVE EACH 4F12714
05166 1 00006 2 05152 TXI NXC,2,6 CHARACTER SEPARATELY. 4F12715
05167 -3 00044 2 05171 LCT TXL LCS,2,36 GO TO DIAGNOSTIC IF 4F12716
05170 0 07400 4 03400 TSX DIAG,4 * MORE THAN 6 CHARACTERS IN SYMBOL. 4F12717
05171 1 77777 4 05164 LCS TXI CSZ,4,-1 ADJUST COUNT, AND CONTINUE SCAN. 4F12718
END OF PROGRAM RSC. 4F12719
***** 4F12720
***** 4F12721
LISTR/ CONTROL TRANSFERS FOR LIST SCAN= 4F12722
D 05172 1 00000 0 05547 TXI EMK,0 * ENDMARK 4F12723
D 05173 1 00000 0 05205 TXI LPR,0 * { 4F12724
D 05174 1 00000 0 05413 TXI CMA,0 * , 4F12725
D 05175 1 00000 0 05377 TXI RPR,0 * } 4F12726
D 05176 1 00000 0 05261 TXI EQS,0 * = 4F12727
D 05177 1 00000 0 05200 TXI ILC,0 - (ILLEGAL CHARACTER IN I/O LIST). 4F12728
05200 0 07400 4 03400 ILC TSX DIAG,4 * / (ILLEGAL CHARACTER IN I/O LIST). 4F12729
D 05201 1 00000 0 05200 TXI ILC,0 . (ILLEGAL CHARACTER IN I/O LIST). 4F12730
D 05202 1 00000 0 05200 TXI ILC,0 + (ILLEGAL CHARACTER IN I/O LIST). 4F12731
D 05203 1 00000 0 05200 TXI ILC,0 * (ILLEGAL CHARACTER IN I/O LIST). 4F12732
05204 0 00000 0 05204 LISTR PZE LISTR INDEXING ADDRESS FOR ABOVE LIST. 4F12733
***** 4F12734
***** 4F12735
LPR/ CALLS=TYP,SS000,RA000,C0190,TEST.,LTMSW,CIT,JIF,DIAG, 4F12736
BSS. USES=CMA,RSC. 4F12737
LPR = ENTRY POINT TAKEN WHEN LPAREN IS MET IN LIST SCAN. 4F12738
05205 -0 50000 0 07404 LPR CAL SYM TEST FOR SUBSCRIPT OR DO NEST. 4F12739
05206 0 10000 0 05230 TZE LPRD IF SUBSCRIPT, THEN 4F12740
05207 0 07400 4 05624 TSX TYP,4 * IF VARIABLE SYMBOL CONTAINS LESS 4F12741
05210 0 02000 4 00003 TRA 3,4 THAN 6 CHARACTERS, ADD A BLANK. 4F12742
D 05211 1 00000 0 05416 TXI ERRC,0 * ON CONSTANT RETURN, GO TO DIAG. 4F12743
05212 -0 50000 0 07404 CAL SYM MOVE SYMBOL 4F12744
05213 0 60200 0 01130 SLW E+2 INTO E+2, AND 4F12745
05214 0 60200 0 07403 SLW SA COMPILE SYMBOLIC ADDRESS. 4F12746
05215 0 07400 4 02614 TSX SS000,4 * GO SCAN AND PROCESS SUBSCRIPT. 4F12747
05216 0 07400 4 02437 TSX RA000,4 * THEN GO COMPUTE RELATIVE ADDRESS. 4F12748
05217 0 07400 4 01707 TSX C0190,4 * EXAMINE NEXT NON-BLANK CHARACTER 4F12749
05220 0 34000 0 01377 CAS CLOS 4F12750
05221 0 02000 0 05226 TRA *+5 4F12751
05222 0 02000 0 05224 TRA *+2 4F12752
05223 0 02000 0 05226 TRA *+3 4F12753
05224 0 60000 0 07400 STZ DOLEV 4F12754
05225 0 07400 4 01707 TSX C0190,4 4F12755
05226 0 07400 4 03247 TSX TESTA0,4 * FOR EITHER COMMA OR ENDMARK. 4F12756
D 05227 1 00000 0 05421 TXI CMA7,0 * AND CONTINUE BY USING PROGRAM CMA. 4F12757
05230 -0 50000 0 07400 LPRD CAL DOLEV IF THE BEGINNING OF A DO NEST, 4F12758

```

05231	0	10000	0	05242	TZE	LPR3	AND DOLEV IS NOT ZERO, THEN	4F12759
05232	0	53400	4	07400	LXA	DOLEV,4	TEST FOR NULL FORMULA.	4F12760
05233	-3	00000	4	05236	TXL	LPRE,4,0	IF NULL, GO ESTABLISH POSITION.	4F12761
05234	0	07400	4	05757	TSX	LTMSW,4	* OTHERWISE, COMPILE LTM, AND	4F12762
05235	1	00000	0	05241	TXI	LPR4,0	AND GO JUMP IFN.	4F12763
05236	-0	50000	0	01367	CAL	SL	IF C(SL) DO NOT = 0,	4F12764
05237	0	10000	0	05241	TZE	**2	THEN	4F12765
05240	0	07400	2	05674	TSX	BSS,2	* GO COMPILE= IFN BSS 0.	4F12766
05241	0	07400	4	02372	TSX	JIF,4	* GO JUMP IFN, AND SET SL AND TL.	4F12767
05242	-0	53400	4	07400	LXD	DOLEV,4	INCREASE THE C(DOLEV DI	4F12768
05243	1	00001	4	05244	TXI	LPR1,4,1	BY 1, AND	4F12769
05244	-0	75400	4	00000	PXD	,4	SET THE C(DOLEV A)	4F12770
05245	0	60200	0	07400	SLW	DOLEV	TO ZERO.	4F12771
05246	-0	50000	0	01372	CAL	TLINE	NOTE AT	4F12772
05247	0	62100	0	05254	STA	LPR2	THIS LEVEL	4F12773
05250	0	60100	4	07400	STO	DOLEV,4	THE LOCATION IN TLDO	4F12774
05251	0	40000	0	01413	ADD	L(5)	OF THIS DO FORMULA	4F12775
05252	0	62100	0	01372	STA	TLINE	AND INCREASE LINE IN TLINE.	4F12776
05253	0	50200	0	01371	CLS	TL	MOVE -(0(IFN)0(248)) INTO THE	4F12777
05254	0	60100	0	00000	STO	**	LOCATION WORD OF CURRENT TEMP DO.	4F12778
05255	0	07400	4	02372	TSX	JIF,4	* GO JUMP IFN, AND SET SL AND TL.	4F12779
05256	-0	53400	4	07400	LXD	DOLEV,4	IF 3 OR FEWER LEVELS IN LIST DO,	4F12780
05257	-3	00003	4	05147	TXL	NXS,4,3	* RETURN TO LIST SCAN.	4F12781
05260	0	07400	4	03400	TSX	DIAG,4	* OTHERWISE, GO TO DIAGNOSTIC.	4F12782
						END OF PROGRAM LPR.		4F12783
						*****		4F12784
						EQS/ CALLS=DIAG. USES=RSC.		4F12785
						EQS = ENTRY POINT WHEN EQUAL SIGN IS MET IN LIST CAN.		4F12786
05261	-0	53400	4	07400	LXD	DOLEV,4	TEST THE LEGALITY OF EQUAL SIGN,	4F12787
05262	3	00000	4	05264	TXH	EQS2,4,0	AND GO TO DIAG ON THE ATTEMPT TO	4F12788
05263	0	07400	4	03400	TSX	DIAG,4	* SPECIFY SUBSCRIPT RANGE WITHOUT I.	4F12789
05264	-0	50000	4	07400	CAL	DOLEV,4	INITIALIZE SPECIFICATION	4F12790
05265	0	62100	0	05331	STA	SPC2	OF GENERATED DO FORMULA	4F12791
05266	0	62100	0	05345	STA	SPC5	AT CURRENT LEVEL.	4F12792
05267	0	40000	0	01407	ADD	L(1)	PREPARE TO ENTER FORMULA NUMBERS	4F12793
05270	0	62100	0	05302	STA	EQS1	IN LOCATION WORD, SUBSCRIPT IN	4F12794
05271	0	40000	0	01412	ADD	L(4)	SYMBOL WORD, AND SUBSCRIPT SPECS	4F12795
05272	0	62100	0	05333	STA	SPC3	IN TEMPDO ENTRY.	4F12796
05273	0	53400	4	01411	LXA	L(3),4	PREPARE TO COUNT THE	4F12797
05274	-0	63400	4	05304	SXD	NSJ,4	NUMBER OF SPECIFICATIONS.	4F12798
05275	-0	50000	0	07404	CAL	SYM	OBTAIN SUBSCRIPT	4F12799
05276	3	00044	2	05302	TXH	EQS1,2,36	FOR THIS DO, AND	4F12800
05277	-0	50000	0	01430	CAL	BLANK	STORE IN PROPER	4F12801
05300	0	76700	2	00044	ALS	36,2	LINE OF TEMPORARY	4F12802
05301	-0	50100	0	07404	ORA	SYM	LIST DO TABLE.	4F12803
05302	0	60200	0	00000	SLW	**	{SUBSCRIPT SYMBOL WORD}	4F12804
05303	-0	50000	0	05317	CAL	SPCTR	SET CONTROL LOOP FOR	4F12805
05304	1	00000	0	05146	TXI	CXS,0,**	* EXIT TO SPECIFICATION.	4F12806
						END OF PROGRAM EQS.		4F12807
						*****		4F12808
						SPCTR/ CONTROL TRANSFERS FOR SPECIFICATION SCAN=		4F12809
05305	0	07400	4	03400	TSX	DIAG,4	* E (ILLEGAL IN CONTROL FOR LIST DO).	4F12810
								4F12811
								4F12812

	05306	0	07400	4	03400	ICC	TSX	DIAG,4	* ( (ILLEGAL IN CONTROL FOR LIST DO),4F12813
D	05307	1	00000	0	05322		TXI	SPC,0	* , 4F12814
D	05310	1	00000	0	05320		TXI	SPCX,0	* ) 4F12815
D	05311	1	00000	0	05306		TXI	ICC,0	= (ILLEGAL IN CONTROL FOR LIST DO),4F12816
D	05312	1	00000	0	05306		TXI	ICC,0	- (ILLEGAL IN CONTROL FOR LIST DO),4F12817
D	05313	1	00000	0	05306		TXI	ICC,0	/ (ILLEGAL IN CONTROL FOR LIST DO),4F12818
D	05314	1	00000	0	05306		TXI	ICC,0	. (ILLEGAL IN CONTROL FOR LIST DO),4F12819
D	05315	1	00000	0	05306		TXI	ICC,0	+ (ILLEGAL IN CONTROL FOR LIST DO),4F12820
D	05316	1	00000	0	05306		TXI	ICC,0	* (ILLEGAL IN CONTROL FOR LIST DO),4F12821
D	05317	0	00000	0	05317	SPCTR	PZE	SPCTR	INDEXING ADDRESS FOR ABOVE LIST. 4F12822
									***** 4F12823
									4F12824
									4F12825
									SPC/ CALLS=TYP,LTMSW,JIF,TET00. USES=RSC. 4F12826
									SPCX = ENTRY POINT WHEN RPAREN IS MET IN SPECIFICATION SCAN. 4F12827
	05320	-0	50000	0	05336	SPCX	CAL	SPC1	PREPARE FOR END OF SPECIFICATION. 4F12828
	05321	0	60100	0	05336		STO	SPC1	SET SPC1 OP-SWITCH TO NOP CASE. 4F12829
									SPC = ENTRY POINT WHEN COMMA IS MET IN SPECIFICATION SCAN. 4F12830
	05322	0	07400	4	05624	SPC	TSX	TYP,4	* GO TEST TYPE OF SUBSCRIPT SPEC. 4F12831
D	05323	1	00000	0	05326		TXI	SPCS,0	IF FIXED POINT CONSTANT, 4F12832
	05324	-0	53400	4	05304		LXD	NSJ,4	SET C(XR4) = SPECIFICATION COUNT, 4F12833
D	05325	1	00000	0	05333		TXI	SPC3,0	AND GO ENTER CONSTANT IN TABLE. 4F12834
	05326	-0	53400	4	05304	SPCS	LXD	NSJ,4	OTHERWISE, SET SPEC COUNT AND 4F12835
	05327	-0	50000	0	01453		CAL	TAG4	IF VARIABLE, NOTE BY 4F12836
	05330	0	77100	4	00003		ARS	3,4	PLACING BIT IN TAG FIELD 4F12837
	05331	-0	60200	0	00000	SPC2	ORS	**	OF TABLE ENTRY. 4F12838
	05332	-0	50000	0	07404		CAL	SYM	PICKUP VARIABLE SYMBOL AND 4F12839
	05333	0	60200	4	00000	SPC3	SLW	** ,4	ENTER N SUB J IN TABLE. 4F12840
	05334	-2	00001	4	05341		TXN	SPC4,4,1	REDUCE J. 4F12841
	05335	-0	63400	4	05304		SXD	NSJ,4	SAVE SPEC COUNT, AND 4F12842
D	05336	-3	00000	0	05147	SPC1	TXL	NXS,0	* EXIT TO SCAN, IF SWITCH IS TXL. 4F12843
	05337	-0	50000	0	01407		CAL	L(1)	SET N SUB 3 = 1 IF NOT 4F12844
D	05340	1	00000	0	05333		TXI	SPC3,0	OTHERWISE SPECIFIED. 4F12845
	05341	0	50200	0	05336	SPC4	CLS	SPC1	RESTORE SPC1 EXIT. 4F12846
	05342	0	60100	0	05336		STO	SPC1	(3 SPECS HAVE BEEN TREATED) 4F12847
	05343	-0	50000	0	00030		CAL	EIFNO	ALSO RESTORE INTERNAL FORMULA NO. 4F12848
	05344	0	77100	0	00022		ARS	18	(PUT BETA IN TEMPDO TABLE) 4F12849
									SPC5 = ENTRY POINT USED BY RPR. 4F12850
	05345	0	62100	0	00000	SPC5	STA	**	SET BETA EQUAL TO IFNO. 4F12851
	05346	0	53400	4	07400		LXA	DOLEV,4	EXAMINE DOLEV ADDRESS FOR ZERO TO 4F12852
	05347	-3	00000	4	05352		TXL	SPCR,4,0	TEST NEED FOR LTM, JIF AFTER ). 4F12853
	05350	0	07400	4	05757		TSX	LTMSW,4	* GO COMPILER LTM. 4F12854
	05351	0	07400	4	02372		TSX	JIF,4	* GO JUMP IFN, AND SET SL AND TL. 4F12855
	05352	-0	53400	4	07400	SPCR	LXD	DOLEV,4	DECREASE DOLEV D 4F12856
	05353	1	77777	4	05354		TXI	SPC6,4,-1	BY 1, AND INDICATE A TREATED LEVEL. 4F12857
	05354	-0	75400	4	00000	SPC6	PXD	,4	IF NOT ZERO, 4F12858
	05355	0	60200	0	07400		SLW	DOLEV	THEN ALL LEVELS ARE NOT TREATED. 4F12859
	05356	3	00000	4	05145		TXH	LSC,4,0	* RETURN TO SCAN NEXT LEVEL. 4F12860
	05357	0	50000	0	01372		CLA	TLINE	IF LEVEL IS ZERO 4F12861
	05360	0	62100	0	05364		STA	SPC7	ENTER GENERATED 4F12862
	05361	0	73400	2	07405	FLINE	PAX	TLDOS,2	DO FORMULAS IN TDO BY 4F12863
	05362	1	70373	2	05363		TXI	**1,2,-TLDOS	SUBROUTINE TET. 4F12864
	05363	0	53400	4	01413	SPC9	LXA	L(5),4	(MOVE EACH 4F12865
	05364	0	50000	2	00000	SPC7	CLA	** ,2	TEMPDO TABLE ENTRY 4F12866
	05365	0	60100	4	01112		STO	1C+5,4	INTO 1C...1C+4, 4F12866

05366	-2	00001	2	05370	TXN	SPC8,2,1	AND THEN	4F12867
05367	2	00001	4	05364	TXI	SPC7,4,1	WHEN DONE,	4F12868
05370	0	53400	4	01105	LXA	1C,4	TEST TO SKIP	4F12869
05371	-3	00000	4	05374	TXL	SPCT,4,0	NULL DO.	4F12870
05372	0	07400	1	03321	TSX	TET00,1	* GO MAKE AN ENTRY	4F12871
05373	0	00000	0	00001	PZE	1	IN TDO TABLE.) AND WHEN THE WHOLE	4F12872
05374	3	00001	2	05363	TXH	SPC9,2,1	DO NEST HAS BEEN ENTERED,	4F12873
05375	0	07400	4	02372	TSX	JIF,4	* GO JUMP IFN, AND SET SL AND TL.	4F12874
D 05376	1	00000	0	05141	TXI	RSC,0	* THEN EXIT TO CONTINUE LIST SCAN.	4F12875
						END OF PROGRAM SPC.		4F12876
						*****		4F12877
								4F12878
						RPR/ CALLS=DIAG. USES=CMA,SPC.		4F12879
						RPR = ENTRY POINT WHEN RPAREN IS MET IN LIST SCAN.		4F12880
05377	-0	53400	4	07400	LXD	DOLEV,4	TEST LEGALITY OF ).	4F12881
05400	3	00000	4	05402	TXH	RPS,4,0	IF THERE ARE TOO MANY ) IN LIST,	4F12882
05401	0	07400	4	03400	TSX	DIAG,4	* GO TO THE DIAGNOSTIC.	4F12883
05402	-0	50000	4	07400	CAL	DOLEV,4	NULLIFY DO AT CURRENT LEVEL.	4F12884
05403	0	62100	0	05345	STA	SPC5	SET SPC5 ADDRESS,	4F12885
05404	0	50000	0	05411	CLA	RPA	SET CMA3 SWITCH TO RETURN TO	4F12886
05405	0	62100	0	05546	STA	CMA3	RPT, AND IF ANY CHARACTERS	4F12887
05406	3	00006	2	05414	TXH	CMA1,2,6	* WERE COLLECTED, EXIT TO CMA.	4F12888
						RPT = REENTRY POINT USED BY CMA.		4F12889
05407	0	50000	0	05336	CLA	SPC1	RESET CMA3 SWITCH	4F12890
05410	0	62100	0	05546	STA	CMA3	TO NXS,	4F12891
05411	-0	75400	0	05407	PXD	RPT,0	CLEAR THE AC, AND	4F12892
D 05412	1	00000	0	05345	TXI	SPC5,0	* CONTINUE BY USING PROGRAM SPC.	4F12893
						END OF PROGRAM RPR.		4F12894
						*****		4F12895
								4F12896
						CMA/ CALLS=TYP,DIAG,ETMSW,DIM,SR,IFFIX,TET00,DRTABS,JIF,CIT,		4F12897
						LTMSW. USES=RSC.		4F12898
						CMA = ENTRY POINT WHEN COMMA IS MET IN LIST SCAN.		4F12899
05413	-3	00006	2	05152	TXL	NXC,2,6	* IF NOTHING COLLECTED, RETURN -SCAN.	4F12900
						CMA1 = ENTRY POINT USED BY EMK.		4F12901
05414	0	07400	4	05624	TSX	TYP,4	* TYPE TEST FOR NON-SUBSCR. VAR.	4F12902
05415	0	02000	4	00003	TRA	3,4	ILLEGAL USE OF CONSTANT IN LIST,	4F12903
05416	0	07400	4	03400	TSX	DIAG,4	* GO TO THE DIAGNOSTIC.	4F12904
05417	-0	50000	0	07404	CAL	SYM	MOVE VARIABLE SYMBOL	4F12905
05420	0	60200	0	07403	SLW	SA	INTO SA. AND	4F12906
						CMA7 = ENTRY POINT USED BY LPR.		4F12907
05421	0	53400	4	07400	LXA	DOLEV,4	IF DOLEV ADDRESS = 0, AND IF	4F12908
05422	3	00000	4	05424	TXH	CMA6,4,0	ETMSW IS SET TO TXH (NOP CASE),	4F12909
05423	0	07400	4	05754	TSX	ETMSW,4	* GO COMPILER ETM, AND CLEAR SL.	4F12910
05424	-0	50000	0	07400	CAL	DOLEV	IN ANY CASE,	4F12911
05425	0	40000	0	01407	ADD	L(1)	UPDATE DOLEV ADDRESS	4F12912
05426	0	60100	0	07400	STO	DOLEV	BY 1, AND THEN	4F12913
05427	0	50000	0	01351	CLA	GTA	SET GENERALIZED TAG.	4F12914
05430	0	60100	0	07402	STO	RA	(RELATIVE ADDRESS)	4F12915
05431	0	10000	0	05436	TZE	DIMSR	IF THIS VARIABLE HAS A SUBSCRIPT,	4F12916
05432	0	50000	0	01147	CLA	EPS	AND IF SUBSCRIPT	4F12917
05433	-0	10000	0	05537	TNZ	CMA5	IS A CONSTANT,	4F12918
05434	0	62100	0	07402	STA	RA	THEN CLEAR THE ADDRESS OF RA.	4F12919
D 05435	1	00000	0	05537	TXI	CMA5,0	THEN GO MAKE CIT ENTRY.	4F12920

	05436	-0	50000	0	07403	DIMSR	CAL SA
	05437	0	60200	0	01130		SLW E+2
	05440	0	07400	4	01771	RD1	TSX DIM1SR,4
D	05441	1	00000	0	05444		TXI RD2,0
	05442	0	50000	0	01101	CS1	CLA D12
D	05443	1	00000	0	05467		TXI DVS,0
	05444	0	07400	4	01775	RD2	TSX DIM2SR,4
D	05445	1	00000	0	05455		TXI RD3,0
	05446	0	56000	0	01101	CS2	LDQ D12
	05447	0	60000	0	01361		STZ N2
	05450	-0	62000	0	01361		SLQ N2
	05451	-0	76300	0	00022		LGL 18
	05452	0	20000	0	01361		MPY N2
	05453	0	77100	0	00001		ARS 1
D	05454	1	00000	0	05467		TXI DVS,0
	05455	0	07400	4	02005	RD3	TSX DIM3SR,4
D	05456	1	00000	0	05533		TXI NODIM,0
	05457	0	56000	0	01101	CS3	LDQ D12
	05460	0	60000	0	01361		STZ N2
	05461	-0	62000	0	01361		SLQ N2
	05462	-0	76300	0	00022		LGL 18
	05463	0	20000	0	01361		MPY N2
	05464	0	76500	0	00022		LRS 18
	05465	0	20000	0	01102		MPY D3
	05466	0	76300	0	00021		LLS 17
	05467	0	40200	0	01407	DVS	SUB L(1)
	05470	0	10000	0	05533		TZE NODIM
	05471	0	76700	0	00022		ALS 18
	05472	0	60100	0	01347		STO G
	05473	0	07400	4	00417		TSX FXCNIX,4
	05474	0	76700	0	00022		ALS 18
	05475	0	62200	0	01364		STD RAT
	05476	0	07400	4	02372		TSX JIF,4
	05477	0	07400	4	01731		TSX CIT,4
	05500	0	00000	0	01367		PZE SL
	05501	0	00000	0	01561		PZE LXD
	05502	0	00000	0	01501		PZE 2P
	05503	0	00000	0	01364		PZE RAT
	05504	0	07400	4	02372		TSX JIF,4
	05505	0	07400	4	05754		TSX ETMSW,4
	05506	0	07400	4	01731		TSX CIT,4
	05507	0	00000	0	01367		PZE SL
	05510	0	00000	0	07401		PZE OP
	05511	0	00000	0	07403		PZE SA
	05512	0	00000	0	01416		PZE ST
	05513	0	60000	0	01367		STZ SL
	05514	0	07400	4	05757		TSX LTMSW,4
	05515	0	07400	4	02375		TSX GIF,4
	05516	0	07400	4	01731		TSX CIT,4
	05517	0	00000	0	01406		PZE L(0)
	05520	0	00000	0	01576		PZE TIX
	05521	0	00000	0	01367		PZE SL
	05522	0	00000	0	01416		PZE ST
	05523	0	60000	0	01367		STZ SL

	IF THIS VARIABLE	4F12921
	DOES NOT HAVE A SUBSCRIPT, THEN	4F12922
*	GO SEARCH DIM1 TABLE.	4F12923
	IF FOUND, THEN	4F12924
	PICKUP DIMENSION 1	4F12925
	AND GO TEST SIZE. OTHERWISE,	4F12926
*	GO SEARCH DIM2 TABLE.	4F12927
	AND IF FOUND,	4F12928
	PICKUP	4F12929
	DIMENSION 1 AND	4F12930
	DIMENSION 2	4F12931
	AND MULTIPLY	4F12932
	THEM TOGETHER.	4F12933
	THEN	4F12934
	GO TEST THE PRODUCT. OTHERWISE,	4F12935
*	GO SEARCH DIM3 TABLE.	4F12936
	AND IF FOUND,	4F12937
	PICKUP	4F12938
	DIMENSION 1,	4F12939
	DIMENSION 2,	4F12940
	AND DIMENSION 3.	4F12941
	MULTIPLY	4F12942
	THEM TOGETHER,	4F12943
	AND IF	4F12944
	THEIR	4F12945
	PRODUCT IS	4F12946
	GREATER THAN 1, THEN	4F12947
	PLACE DIMENSION-1 IN THE	4F12948
	DECREMENT OF G, AND	4F12949
*	GO ENTER IN FIXCON, AND GET TAG.	4F12950
	ADJUST, AND STORE TAG IN THE	4F12951
	DECREMENT OF RAT. THEN	4F12952
*	GO JUMP IFN, AND SET SL AND TL.	4F12953
*	GO MAKE THE FOLLOWING CIT ENTRY=	4F12954
	WORD1--0(IFN)000	4F12955
	WORD2--LXD000	4F12956
	WORD3--200000	4F12957
	WORD4--0(FIXCON TAG)008	4F12958
*	GO JUMP IFN, AND SET SL AND TL.	4F12959
*	IF ETMSW = NOP, COMPILE ETM, SL=0.	4F12960
*	GO MAKE THE FOLLOWING CIT ENTRY=	4F12961
	WORD1--0(IFN)000 OR 000000	4F12962
	WORD2--(OPERATION CODE)	4F12963
	WORD3--(SYMBOLIC ADDRESS)	4F12964
	WORD4--000008	4F12965
	CLEAR SL, AND	4F12966
*	IF LTMSW = NOP, COMPILE LTM. SL=0.	4F12967
*	GET IFN IN SL AND TL.	4F12968
*	GO MAKE THE FOLLOWING CIT ENTRY=	4F12969
	WORD1--000000	4F12970
	WORD2--TIX001	4F12971
	WORD3--0(IFN)000	4F12972
	WORD4--000008	4F12973
	CLEAR SL, AND	4F12974

	05524	0	07400	4	05754		TSX	ETMSW,4		* IF ETMSW = NOP, COMPILE ETM, SL=0.	4F12975
	05525	0	07400	4	01731		TSX	CIT,4		* GO MAKE THE FOLLOWING CIT ENTRY=	4F12976
	05526	0	00000	0	01406		PZE	L(0)		WORD1---000000	4F12977
	05527	0	00000	0	01546		PZE	DED		WORD2---DED000	4F12978
	05530	0	00000	0	01406		PZE	L(0)		WORD3---000000	4F12979
	05531	0	00000	0	01416		PZE	ST		WORD4---000008	4F12980
D	05532	1	00000	0	05537		TXI	CMA5,0		IF THE PRODUCT OF DIMENSIONS IS	4F12981
	05533	0	07400	1	05773	NODIM	TSX	IFFIX,1		* LESS THAN 2, TEST TYPE OF VARIABLE,	4F12982
D	05534	1	00000	0	05537		TXI	CMA5,0		AND IF FIXED POINT,	4F12983
	05535	0	07400	1	03321		TSX	TET00,1		* GO ENTER VARIABLE IN	4F12984
	05536	0	00000	0	00000	INOUT	PZE	**		EITHER FORVAL OR FORVAR TABLE.	4F12985
	05537	0	07400	4	01731	CMA5	TSX	CIT,4		* GO MAKE THE FOLLOWING CIT ENTRY=	4F12986
	05540	0	00000	0	01367		PZE	SL		WORD1---0(IFN)000 OR 000000	4F12987
	05541	0	00000	0	07401		PZE	OP		WORD2---NTR000 OR CPY000	4F12988
	05542	0	00000	0	07403		PZE	SA		WORD3---(SYMBOL)	4F12989
	05543	0	00000	0	07402		PZE	RA		WORD4---(RELATIVE ADDRESS)	4F12990
	05544	0	60000	0	01367		STZ	SL		CLEAR SL, AND	4F12991
	05545	0	60000	0	01351		STZ	GTAG		CLEAR GTAG, THEN TAKE EXIT	4F12992
D	05546	1	00000	0	05147	CMA3	TXI	NXS,0		* SWITCH TO RPT OR NXS.	4F12993
								END OF PROGRAM CMA.			4F12994
								*****			4F12995
								EMK/ CALLS=DIAG,LTMSW,JIF,CIT,LIB,TET00. USES=CMA.			4F12996
								EMK = ENTRY POINT WHEN AN ENDMARK IS MET IN LIST SCAN.			4F12997
	05547	3	00006	2	05414	EMK	TXH	CMA1,2,6		* IF NO CHARACTERS REMAIN, THEN	4F12998
	05550	-0	53400	4	07400		LXD	DOLEV,4		CHECK THE NUMBER OF PARENTHESES.	4F12999
	05551	-3	00000	4	05553		TXL	FIN,4,0		IF THERE ARE TOO MANY LPARENS,	4F13000
	05552	0	07400	4	03400		TSX	DIAG,4		* GO TO THE DIAGNOSTIC, OTHERWISE,	4F13001
	05553	0	07400	4	05757	FIN	TSX	LTMSW,4		* IF LTMSW = NOP, COMPILE LTM, SL=0.	4F13002
	05554	0	07400	4	02372		TSX	JIF,4		* GO JUMP IFN, AND SET SL AND TL.	4F13003
								LAST = ENTRY POINT SET BY BXT SWITCH.			4F13004
	05555	0	07400	4	01731	LAST	TSX	CIT,4		* GO MAKE THE FOLLOWING CIT ENTRY=	4F13005
	05556	0	00000	0	01367		PZE	SL		WORD1---0(IFN)000	4F13006
	05557	0	00000	0	01537		PZE	CAL		WORD2---CAL000	4F13007
	05560	0	00000	0	01510		PZE	15P		WORD3---*00000	4F13008
	05561	0	00000	0	01406		PZE	L(0)		WORD4---000000	4F13009
	05562	0	07400	4	06023		TSX	LIB,4		* MAKE CLOSUB ENTRY, AND COMPILE=	4F13010
	05563	0	00000	0	01406		PZE	L(0)		WORD1---000000	4F13011
	05564	0	00000	0	06125		PZE	XIT		WORD2---XIT000	4F13012
	05565	0	00000	0	06141		PZE	END		WORD3---(RTN) OR (FIL)	4F13013
	05566	0	00000	0	01406		PZE	L(0)		WORD4---000000	4F13014
								FINI = ENTRY POINT USED BY EFT.			4F13015
	05567	0	50000	0	05376	FINI	CLA	RESET		RESET BXT SWITCH	4F13016
	05570	0	62100	0	04744		STA	BXT		TO RSC.	4F13017
	05571	0	50000	0	01151		CLA	F-1		TEST FOR AN EXTERNAL	4F13018
	05572	0	40200	0	01477		SUB	5BLANS		STATEMENT NUMBER, AND IF NONE,	4F13019
	05573	0	10000	0	03440		TZE	CA010		* EXIT TO PROCESS NEXT STATEMENT.	4F13020
	05574	-0	50000	0	01520		CAL	MINUS0		OTHERWISE, SET THE SIGN	4F13021
	05575	-0	60200	0	00030		ORS	EIFNO		OF EIFNO TO MINUS, AND	4F13022
	05576	0	07400	1	03321		TSX	TET00,1		* GO ENTER -(EIFNO)	4F13023
	05577	0	00000	0	00000		PZE	0		IN THE TEIFNO TABLE.	4F13024
	05600	-0	50000	0	00030		CAL	EIFNO		THEN RESTORE	4F13025
	05601	0	60100	0	00030		STO	EIFNO		EIFNO, AND	4F13026
D	05602	1	00000	0	03440		TXI	CA010,0		* EXIT TO PROCESS NEXT STATEMENT.	4F13027
											4F13028

END OF PROGRAM EMK. 4F13029  
 \* \* \* \* \* 4F13030  
 STATEA/4-SUBROUTINES USED BY STATE A= 4F13031  
 4F13032

\* \* \* \* \* 4F13033

BEG(TYP),4/ CALLS=DIAG. USES RSC. 4F13034  
 BEG = ENTRY POINT USED BY RDC,RIT,WOT,EFT. 4F13035  
 05603 -0 63400 4 05605 BEG SXD BEX,4 SAVE C(XR4) FOR RETURN, 4F13036  
 05604 -0 50000 0 05620 CAL BEGTR SET CONTROL TRANSFER 4F13037  
 05605 1 00000 0 05146 BEX TXI CXS,0,\*\* \* AND GO EXECUTE BEGINNING SCAN. 4F13038  
 \* \* \* \* \* 4F13039

4F13040

BEGTR/ CONTROL TRANSFERS FOR BEGINNING SCAN= 4F13041

D 05606 1 00000 0 05621 TXI NLS,0 \* ENDMARK (NO LIST SCAN) 4F13042  
 05607 0 07400 4 03400 IBC TSX DIAG,4 \* ( (ILLEGAL CHARACTER IN I/O SETUP). 4F13043  
 D 05610 1 00000 0 05623 TXI CMB,0 \* , 4F13044  
 D 05611 1 00000 0 05607 TXI IBC,0 ) (ILLEGAL CHARACTER IN I/O SETUP). 4F13045  
 D 05612 1 00000 0 05607 TXI IBC,0 = (ILLEGAL CHARACTER IN I/O SETUP). 4F13046  
 D 05613 1 00000 0 05607 TXI IBC,0 - (ILLEGAL CHARACTER IN I/O SETUP). 4F13047  
 D 05614 1 00000 0 05607 TXI IBC,0 / (ILLEGAL CHARACTER IN I/O SETUP). 4F13048  
 D 05615 1 00000 0 05607 TXI IBC,0 . (ILLEGAL CHARACTER IN I/O SETUP). 4F13049  
 D 05616 1 00000 0 05607 TXI IBC,0 + (ILLEGAL CHARACTER IN I/O SETUP). 4F13050  
 D 05617 1 00000 0 05607 TXI IBC,0 \* (ILLEGAL CHARACTER IN I/O SETUP). 4F13051  
 05620 0 00000 0 05620 BEGTR PZE BEGTR INDEXING ADDRESS FOR ABOVE LIST. 4F13052  
 \* \* \* \* \* 4F13053

4F13054

NLS = ENTRY POINT WHEN AN ENDMARK IS MET IN BEGINNING SCAN. 4F13055

05621 0 50000 0 06105 NLS CLA NLA IF ENDMARK IS MET, 4F13056  
 05622 0 62100 0 04744 STA BXT SET BXT SWITCH TO LAST. 4F13057

CMB = ENTRY POINT WHEN A COMMA IS MET IN BEGINNING SCAN. 4F13058

05623 -0 53400 4 05605 CMB LXI BEX,4 RESTORE THE C(XR4), AND 4F13059  
 TYP = ENTRY POINT USED BY LPR,SPC,CMA. 4F13060

05624 0 50000 0 07310 TYP CLA CHR-6 TEST FIRST CHARACTER 4F13061

05625 0 40200 0 01404 SUB PLUS FOR VARIABLE 4F13062

05626 -0 12000 0 05634 TMI ABS OR CONSTANT. 4F13063

05627 3 00044 2 05633 TXH SMB,2,36 IF VARIABLE, 4F13064

05630 -0 50000 0 01430 CAL BLANK ADD A BLANK 4F13065

05631 0 76700 2 00044 ALS 36,2 IF SYMBOL CONTAINS 4F13066

05632 -0 60200 0 07404 ORS SYM LESS THAN 6 CHARACTERS, AND 4F13067

05633 0 02000 4 00001 SMB TRA 1,4 \* TAKE VARIABLE EXIT TO CALLER. 4F13068

05634 0 53400 2 01413 ABS LXA L(5),2 IF CONSTANT, 4F13069

05635 0 50000 2 07315 CLA CHR-1,2 THEN 4F13070

05636 0 60100 0 07307 STO BIN CONVERT 4F13071

05637 -3 00000 2 05645 CSJ TXL INT,2,\*\* BCD 4F13072

05640 0 76700 0 00002 ALS 2 DIGITS 4F13073

05641 0 40000 0 07307 ADD BIN TO THEIR 4F13074

05642 0 76700 0 00001 ALS 1 BINARY 4F13075

05643 0 40000 2 07316 ADD CHR,2 EQUIVALENT, 4F13076

05644 1 77777 2 05636 TXI CSJ-1,2,-1 AND WHEN DONE, 4F13077

05645 0 02000 4 00002 INT TRA 2,4 \* TAKE CONSTANT EXIT TO CALLER. 4F13078

END OF PROGRAM BEG(TYP). 4F13079  
 \* \* \* \* \* 4F13080



05646	-0	63400	4	06054	BRW	SXD XRW,4	BRW,4/ CALLS=JIF,BEG,VRA,CIT. CALLERS=WBT,RBT,WRD.	4F13081
05647	0	60200	0	06140		SLW CON	SAVE THE C(XR4), AND	4F13082
05650	0	07400	4	02372		TSX JIF,4	SET CON = 0 OR ,,144 OR ,,192.	4F13083
05651	0	07400	4	05603		TSX BEG,4	* GO JUMP IFN, AND SET SL AND TL.	4F13084
05652	0	07400	4	06032		TSX VRA,4	* GO SCAN AND TEST TYPE OF SYMBOL.	4F13085
05653	0	76700	0	00022		ALS 18	* IF VARIABLE, ENTER FORVAR AND CITS.	4F13086
05654	0	60100	0	07402		STO RA	IF CONSTANT, ADJUST CONVERTED	4F13087
05655	0	07400	4	01731		TSX CIT,4	NUMBER, AND SET RA.	4F13088
05656	0	00000	0	01371		PZE TL	* GO MAKE THE FOLLOWING CIT ENTRY=	4F13089
05657	0	00000	0	07401		PZE OP	WORD1--0(IFN)0(248)	4F13090
05660	0	00000	0	01406		PZE L(0)	WORD2--(WBT,RBT,WRD,RDD)000	4F13091
05661	0	00000	0	07402		PZE RA	WORD3--000000	4F13092
05662	-0	50000	0	01544		CAL CPY	WORD4--000000 OR 0(UNIT)000	4F13093
05663	0	60200	0	07401		SLW OP	MOVE CPY000	4F13094
05664	-0	50000	0	00415		CAL TXLOP	INTO OP.	4F13095
05665	0	63000	0	05754		STP ETMSW	SET OP-SWITCHES,	4F13096
05666	0	63000	0	05757		STP LTMSW	ETMSW AND LTMSW,	4F13097
05667	-0	50000	0	06133		CAL RTN	TO THE TRA CASE.	4F13098
05670	0	60200	0	06141		SLW END	MOVE (RTN)	4F13099
05671	0	60000	0	01367		STZ SL	INTO END.	4F13100
05672	-0	53400	4	06054		LXD XRW,4	CLEAR SL,	4F13101
05673	0	02000	4	00001		TRA 1,4	RESTORE THE C(XR4), AND	4F13102
							* EXIT TO CALLER.	4F13103
							END OF PROGRAM BRW.	4F13104
							*****	4F13105
								4F13106
							BSS,2/ CALLS=CIT00. CALLERS=LPR,C1600.	4F13107
							BSS COMPILES= IFN BSS 0.	4F13108
05674	0	07400	4	01731	BSS	TSX CIT00,4	* GO MAKE FOLLOWING CIT ENTRY=	4F13109
05675	0	00000	0	01367		PZE SL	WORD1--0(IFN)000	4F13110
05676	0	00000	0	01536		PZE L(BSS)	WORD2--BSS000	4F13111
05677	0	00000	0	01406		PZE L(0)	WORD3--000000	4F13112
05700	0	00000	0	01406		PZE L(0)	WORD4--000000	4F13113
05701	0	02000	2	00001		TRA 1,2	* EXIT TO CALLER+1.	4F13114
							END OF PROGRAM BSS.	4F13115
							*****	4F13116
								4F13117
							CA100,4/ CALLS=DIAG. CALLER=CA000.	4F13118
							CA100 READS NEXT SOURCE PROGRAM CARD (1 TAPE RECORD).	4F13119
05702	0	53400	2	01413	CA100	LXA TERC,2	PREPARE TO COUNT	4F13120
05703	-0	63400	2	01112		SXD 1G,2	TAPE READING ERRORS.	4F13121
05704	-0	76000	0	00012		RTT	TURN OFF TAPE CHECK INDICATOR.	4F13122
05705	0	76100	0	00000		NOP	PROCEED TO NEXT INSTRUCTION.	4F13123
05706	0	76200	0	00202	CA101	RDS 130	SELECT SOURCE TAPE FOR READING.	4F13124
05707	0	53400	2	01420		LXA L(12),2	INITIALIZE INDEX B FOR 12 CYCLES OF	4F13125
							COPY LOOP.	4F13126
05710	0	70000	2	01347	CA102	CPY FT+12,2	COPY INTO FT REGION	4F13127
05711	0	02000	0	05721		TRA CA103	NEXT SOURCE PROGRAM CARD.	4F13128
05712	0	02000	0	05740		TRA CA120	END OF FILE, GO FINISH LAST STATEM.	4F13129
05713	-0	53400	2	01112	CA130	LXD 1G,2	TEST TAPE ERROR COUNTER	4F13130
05714	2	00001	2	05716		TIX CA131,2,1	BY TRYING TO REDUCE BY 1.	4F13131
05715	0	07400	4	03400		TSX DIAG,4	* FAILED 5 TIMES IN READING TAPE 2.	4F13132
05716	-0	63400	2	01112	CA131	SXD 1G,2	SAVE REDUCED VALUE IN COUNTER.	4F13133
								4F13134

	05717	0	76400	0	00202		BST 130	BACKSPACE FORMULA TAPE,	4F13135
	05720	0	02000	0	05706		TRA CA101	AND GO BACK TO READ AGAIN.	4F13136
	05721	2	00001	2	05710	CA103	TIX CA102,2,1	TEST EXIT FROM LOOP.	4F13137
	05722	0	76600	0	00333		ID0	DELAY UNTIL TAPE DISCONNECTS.	4F13138
	05723	-0	76000	0	00012		RTT	CHECK READING OF TAPE.	4F13139
D	05724	1	00000	0	05713		TXI CA130,0	IF INCORRECT, GO CHECK ERROR COUNT.	4F13140
	05725	0	53400	2	01420		LXA L(12),2	PREPARE TO SCAN 12 WORDS OF CARD.	4F13141
	05726	0	50000	0	01526	CA112	CLA BLANKS	TEST	4F13142
	05727	0	40200	2	01347		SUB FT+12,2	FOR	4F13143
	05730	-0	10000	0	05733		TNZ CA113	BLANK	4F13144
	05731	2	00001	2	05726		TIX CA112,2,1	CARD.	4F13145
	05732	0	02000	0	05702		TRA CA100	IF BLANK, GO TO READ NEXT CARD.	4F13146
	05733	-0	50000	0	01333	CA113	CAL FT	IF NOT BLANK,	4F13147
	05734	0	77100	0	00036		ARS 30	EXAMINE FIRST	4F13148
	05735	0	40200	0	01421		SUB L(C)	CHARACTER TO	4F13149
	05736	0	10000	0	05702		TZE CA100	TEST FOR COMMENT CARD.	4F13150
	05737	0	02000	4	00001		TRA 1,4	* EXIT IF NEITHER BLANK NOR COMMENT.	4F13151
	05740	0	60000	0	01333	CA120	STZ FT	INDICATE THAT FINAL	4F13152
	05741	-0	63400	0	02575		SXD ENDWRD,0	STATEMENT HAS BEEN READ IN.	4F13153
	05742	0	02000	4	00001		TRA 1,4	* EXIT TO MAIN ROUTINE TO FINISH.	4F13154
							END OF PROGRAM CA100.		4F13155
							*****		4F13156
							CC500,4/ CALLER=CC000.		4F13157
							CC500 BRINGS NEXT CHARACTER OF DICTIONARY INTO AC(30-35).		4F13158
	05743	-0	75400	0	00000	CC500	PXD ,0	CLEAR THE AC.	4F13159
	05744	2	00001	2	05752		TIX CC502,2,1	IF NO DICTIONARY CHARACTERS	4F13160
	05745	-0	53400	2	01113		LXD 2G,2	REMAIN IN THE MQ, THEN	4F13161
	05746	0	56000	2	06145		LDQ DIC,2	REFILL WITH NEXT DICTIONARY WORD.	4F13162
	05747	1	77777	2	05750		TXI CC501,2,-1	RESET THE	4F13163
	05750	-0	63400	2	01113	CC501	SXD 2G,2	DICTIONARY WORD TAG, AND	4F13164
	05751	0	53400	2	01414		LXA L(6),2	SET THE CHARACTER COUNT = 6.	4F13165
	05752	-0	76300	0	00006	CC502	LGL 6	SHIFT CHAR INTO AC(30-35),	4F13166
	05753	0	02000	4	00001		TRA 1,4	* AND RETURN TO CALLER.	4F13167
							END OF PROGRAM CC500.		4F13168
							*****		4F13169
							ETMSW(LTMSW),4/ CALLS=CIT. CALLERS=RDC,LPR,SPC,CMA,EMK.		4F13170
							ETMSW = ENTRY POINT USED BY RDC,CMA.		4F13171
D	05754	-3	00000	0	05772	ETMSW	TXL NOTTM,0	SWITCH (TXL=TRA, TXH=NOP).	4F13172
	05755	-0	50000	0	06112		CAL ETM	PICKUP ETM000, AND	4F13173
	05756	1	00000	0	05761	XR4X	TXI SETOP,0,**	GO SET OP.	4F13174
							LTMSW = ENTRY POINT USED BY LPR,SPC,CMA,EMK.		4F13175
D	05757	-3	00000	0	05772	LTMSW	TXL NOTTM,0	SWITCH (TXL=TRA, TXH=NOP).	4F13176
	05760	-0	50000	0	06113		CAL LTM	PICKUP LTM000, AND	4F13177
	05761	0	60200	0	06142	SETOP	SLW TOP	SET TOP.	4F13178
	05762	-0	63400	4	05756		SXD XR4X,4	SAVE THE C(XR4), AND	4F13179
	05763	0	07400	4	01731		TSX CIT,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F13180
	05764	0	00000	0	01367		PZE SL	WORD1--0(1FN)000	4F13181
	05765	0	00000	0	06142		PZE TOP	WORD2--ETM000 OR LTM000	4F13182
	05766	0	00000	0	01406		PZE L(0)	WORD3--000000	4F13183
	05767	0	00000	0	01406		PZE L(0)	WORD4--000000	4F13184
	05770	0	60000	0	01367		STZ SL	CLEAR SL,	4F13185
	05771	-0	53400	4	05756		LXD XR4X,4	RESTORE THE C(XR4), AND	4F13186

05772	0	02000	4	00001	NOTTM	TRA 1,4	* EXIT TO CALLER.	4F13189
						END OF PROGRAM ETMSW(LTMSW).		4F13190
						*****		4F13191
						IFFIX,1/ USES=TESTFX. CALLERS=CMA,VRA(VRD).		4F13192
								4F13193
05773	-0	50000	0	00030	IFFIX	CAL EIFNO	SET	4F13194
05774	0	60000	0	01347		STZ G	G TO	4F13195
05775	0	62200	0	01347		STD G	(0(IFN)000).	4F13196
05776	-0	50000	0	07404		CAL SYM	MOVE SYMBOL	4F13197
05777	0	60200	0	01350		SLW G+1	INTO G+1.	4F13198
06000	-0	50000	0	07310		CAL CHR-6	PICKUP 1ST CHARACTER OF SYMBOL, AND	4F13199
D	06001	1	00000	0	03242	TXI TESTFX+1,0	* GO TEST FOR FIXED OR FLOATING PT.	4F13200
						END OF PROGRAM IFFIX.		4F13201
						*****		4F13202
						INPUT(OUTPUT),2/ CALLS=GIF,CIT,LIB.		4F13203
						CALLERS=RDC,RIT,RDP,WOT,PDC,WBT,RBT,WRD,RDD.		4F13204
						INPUT = ENTRY POINT USED BY RDC,RIT,RBT,RDD.		4F13205
								4F13206
	06002	0	50000	0	01414	INPUT CLA L(6)	PICKUP 6 TO	4F13207
TD	06003	1	00000	0	06005	TXI OUTPUT+1	GO SET INOUT FOR FORVAL ENTRY.	4F13208
						OUTPUT = ENTRY POINT USED BY RDP,WOT,PDC,WBT,WRD.		4F13209
	06004	0	50000	0	01413	OUTPUT CLA L(5)	PICKUP 5 TO	4F13210
	06005	0	60100	0	05536	STO INOUT	SET INOUT FOR FORVAR ENTRY.	4F13211
	06006	0	07400	4	02375	TSX GIF,4	* SET SL = IFN,000.	4F13212
	06007	0	07400	4	01731	TSX CIT,4	* GO MAKE THE FOLLOWING CIT ENTRY=	4F13213
	06010	0	00000	0	01367	PZE SL	WORD1--0(IFN)000	4F13214
	06011	0	00000	0	01537	PZE CAL	WORD2--CAL000	4F13215
	06012	0	00000	0	01510	PZE 15P	WORD3--*00000	4F13216
	06013	0	00000	0	01406	PZE L(0)	WORD4--000000	4F13217
	06014	0	07400	4	06023	TSX LIB,4	* MAKE CLOSUB ENTRY, AND COMPILE=	4F13218
	06015	0	00000	0	01406	PZE L(0)	WORD1--000000	4F13219
	06016	0	00000	0	06125	PZE XIT	WORD2--XIT000	4F13220
	06017	0	00000	0	06132	PZE LEV	WORD3--(LEV)	4F13221
	06020	0	00000	0	01406	PZE L(0)	WORD4--000000	4F13222
	06021	0	60000	0	01367	STZ SL	CLEAR SL, AND	4F13223
	06022	0	02000	2	00001	TRA 1,2	* EXIT TO CALLER.	4F13224
						END OF PROGRAM INPUT(OUTPUT).		4F13225
						*****		4F13226
						LIB,1/ CALLS=TET00,CIT. CALLERS=RDC,EMK,INPUT(OUTPUT).		4F13227
	06023	-0	50000	4	00003	CAL 3,4	MOVE NAME OF SUBROUTINE,	4F13228
	06024	0	62100	0	06025	STA LIC	ADDRESS OF WHICH	4F13229
	06025	-0	50000	0	00000	CAL **	IS IN WORD3 OF CALLING SEQ,	4F13230
	06026	0	60200	0	01347	SLW G	INTO G, AND	4F13231
	06027	0	07400	1	03321	TSX TET00,1	* GO ENTER IN THE	4F13232
	06030	0	00000	0	00011	PZE 9	CLOSUB TABLE.	4F13233
D	06031	1	00000	0	01731	TXI CIT,0	* MAKE CIT ENTRY, AND EXIT TO CALLER.	4F13234
						END OF PROGRAM LIB.		4F13235
						*****		4F13236
						VRA(VRD),4/ CALLS=IFFIX,DIAG,TET00,CIT,DRTABS,JIF.		4F13237
						CALLERS=RIT,WOT,EFT.		4F13238
						VRA = ENTRY POINT USED BY EFT.		4F13239
								4F13240
	06032	0	50000	0	02400	VRA CLA L(TL)	RESET TPOA ADDRESS	4F13241
								4F13242

06033 0 62100 0 05102  
 06034 -0 50000 0 00415  
 06035 1 77777 4 06037  
  
 06036 0 50000 0 00415 VRD  
 06037 0 63000 0 06052 VRD1  
 06040 -0 63400 4 06052  
 06041 0 07400 1 05773  
 06042 0 07400 4 03400  
 06043 0 07400 1 03321  
 06044 0 00000 0 00005  
 06045 0 07400 4 01731  
 06046 0 00000 0 01367  
 06047 0 00000 0 01537  
 06050 0 00000 0 07404  
 06051 0 00000 0 01406  
 06052 3 00000 0 06055 VRX  
 06053 -0 50000 0 06121  
 06054 1 00000 0 06076 XRW  
 06055 0 50000 0 06140 VDA  
 06056 0 10000 0 06070  
 06057 0 60100 0 01347  
 06060 0 07400 4 00417  
 06061 0 76700 0 00022  
 06062 0 60100 0 07402  
 06063 0 07400 4 01731  
 06064 0 00000 0 01406  
 06065 0 00000 0 01532  
 06066 0 00000 0 01501  
 06067 0 00000 0 07402  
 06070 0 07400 4 01731 SDA  
 06071 0 00000 0 01406  
 06072 0 00000 0 01535  
 06073 0 00000 0 01406  
 06074 0 00000 0 01466  
 06075 -0 50000 0 01571  
 06076 0 60200 0 06142 RVX  
 06077 0 07400 4 02372  
 06100 0 07400 4 01731  
 06101 0 00000 0 01406  
 06102 0 00000 0 06142  
 06103 0 00000 0 01371  
 06104 0 00000 0 01406  
 06105 -0 75400 0 05555 NLA  
 06106 -0 53400 4 06052  
 06107 0 02000 4 00001

STA TPOA  
 CAL TXLOP  
 TXI VRD1,4,-1  
 VRD = ENTRY POINT USED BY  
 CLA TXLOP  
 STP VRX  
 SXD VRX,4  
 TSX IFFIX,1  
 TSX DIAG,4  
 TSX TET00,1  
 PZE 5  
 TSX CIT,4  
 PZE SL  
 PZE CAL  
 PZE SYM  
 PZE L(0)  
 TXH VDA,0,\*\*  
 CAL STD  
 TXI RVX,0,\*\*  
 CLA CON  
 TZE SDA  
 STO G  
 TSX FXCNI,4  
 ALS 18  
 STO RA  
 TSX CIT,4  
 PZE L(0)  
 PZE ADD  
 PZE 2P  
 PZE RA  
 TSX CIT,4  
 PZE L(0)  
 PZE ARS  
 PZE L(0)  
 PZE D18  
 CAL STA  
 SLW TOP  
 TSX JIF,4  
 TSX CIT,4  
 PZE L(0)  
 PZE TOP  
 PZE TL  
 PZE L(0)  
 PXD LAST,0  
 LXD VRX,4  
 TRA 1,4

END OF PROGRAM VRA(VRD).

\*\*\*\*\*

STATEA/5-CONSTANTS AND VARIABLES USED BY STATE A=

06110 222324000000 BCD BCD 1BCD000  
 06111 226263000000 BST BCD 1BST000  
 06112 256344000000 ETM BCD 1ETM000

TO TL.  
 PREPARE TO SET OP-SWITCH TO TRA.  
 SET RETURN TO TSX+2, AND GO SET OP.  
 RIT,WOT.  
 PREPARE TO SET OP-SWITCH TO NOP.  
 SET VRX OP-SWITCH.  
 SAVE THE C(XR4) FOR RETURN.  
 \* SET UP IFN AND SYMBOL FOR FORVAR.  
 \* ILLEGAL USE OF FLOATING VARIABLE.  
 \* IF SYMBOL IS FXD-PT, GO MAKE  
 ENTRY IN FORVAR TABLE.  
 \* GO MAKE THE FOLLOWING CIT ENTRY=  
 WORD1--0(IFN)000  
 WORD2--CAL000  
 WORD3--(FXD-PT SYMBOL)  
 WORD4--000000  
 SWITCH (TXL=TRA, TXH=NOP).  
 PICKUP STD000, AND  
 GO SET TOP.  
 IF CON  
 IS NOT ZERO,  
 THEN  
 \* ENTER CON IN FIXCON,AND GET TAG.  
 ADJUST TAG, AND  
 SET RA.  
 \* GO MAKE THE FOLLOWING CIT ENTRY.  
 WORD1--000000  
 WORD2--ADD000  
 WORD3--200000  
 WORD4--(FIXCON TAG)  
 \* GO MAKE THE FOLLOWING CIT ENTRY=  
 WORD1--000000  
 WORD2--ARS000  
 WORD3--000000  
 WORD4--0(18)000  
 PICKUP STA000, AND  
 SET TOP TO STA OR STD.  
 \* GO JUMP IFN, AND SET SL AND TL.  
 \* GO MAKE THE FOLLOWING CIT ENTRY=  
 WORD1--000000  
 WORD2--STA000 OR STD000  
 WORD3--0(IFN)000  
 WORD4--000000  
 CLEAR THE AC,  
 RESTORE THE C(XR4), AND  
 \* EXIT TO CALLER.

4F13243  
 4F13244  
 4F13245  
 4F13246  
 4F13247  
 4F13248  
 4F13249  
 4F13250  
 4F13251  
 4F13252  
 4F13253  
 4F13254  
 4F13255  
 4F13256  
 4F13257  
 4F13258  
 4F13259  
 4F13260  
 4F13261  
 4F13262  
 4F13263  
 4F13264  
 4F13265  
 4F13266  
 4F13267  
 4F13268  
 4F13269  
 4F13270  
 4F13271  
 4F13272  
 4F13273  
 4F13274  
 4F13275  
 4F13276  
 4F13277  
 4F13278  
 4F13279  
 4F13280  
 4F13281  
 4F13282  
 4F13283  
 4F13284  
 4F13285  
 4F13286  
 4F13287  
 4F13288  
 4F13289  
 4F13290  
 4F13291  
 4F13292  
 4F13293  
 4F13294  
 4F13295  
 4F13296

06113	436344000000	LTM	BCD 1LTM000	CONSTANT USED BY IOT.	4F13297
06114	456351000000	NTR	BCD 1NTR000	CONSTANT USED BY IOT.	4F13298
06115	512451000000	RDR	BCD 1RDR000	CONSTANT USED BY IOT.	4F13299
06116	512566000000	REW	BCD 1REW000	CONSTANT USED BY IOT.	4F13300
06117	516322000000	RTB	BCD 1RTB000	CONSTANT USED BY IOT.	4F13301
06120	624366000000	SLW	BCD 1SLW000	CONSTANT USED BY IOT.	4F13302
06121	626324000000	STD	BCD 1STD000	CONSTANT USED BY IOT.	4F13303
06122	662451000000	WDR	BCD 1WDR000	CONSTANT USED BY IOT.	4F13304
06123	662526000000	WEF	BCD 1WEF000	CONSTANT USED BY IOT.	4F13305
06124	666322000000	WTB	BCD 1WTB000	CONSTANT USED BY IOT.	4F13306
06125	673163000000	XIT	BCD 1XIT000	CONSTANT USED BY IOT.	4F13307
06126	742224233460	BDC	BCD 1(BDC)	CONSTANT USED BY IOT.	4F13308
06127	742362303460	CSH	BCD 1(CSH)	CONSTANT USED BY IOT.	4F13309
06130	742422233460	DBC	BCD 1(DBC)	CONSTANT USED BY IOT.	4F13310
06131	742631433460	FIL	BCD 1(FIL)	CONSTANT USED BY IOT.	4F13311
06132	744325653460	LEV	BCD 1(LEV)	CONSTANT USED BY IOT.	4F13312
06133	745163453460	RTN	BCD 1(RTN)	CONSTANT USED BY IOT.	4F13313
06134	746223303460	SCH	BCD 1(SCH)	CONSTANT USED BY IOT.	4F13314
06135	746247303460	SPH	BCD 1(SPH)	CONSTANT USED BY IOT.	4F13315
06136	746263303460	STH	BCD 1(STH)	CONSTANT USED BY IOT.	4F13316
06137	746362303460	TSH	BCD 1(TSH)	CONSTANT USED BY IOT.	4F13317
					4F13318
	06140	CON	BSS 1	VARIABLE USED BY IOT.	4F13319
06141	0 00000 0 00000	END	PZE **	VARIABLE USED BY IOT.	4F13320
	06142	TOP	BSS 1	VARIABLE USED BY IOT.	4F13322
06143	0 00000 0 00000	TSA	PZE **	VARIABLE USED BY IOT.	4F13323
06144	0 00000 0 00000	TTA	PZE **	VARIABLE USED BY IOT.	4F13324
					4F13325
					4F13326
					4F13327
					4F13328
					4F13329
					4F13330
					4F13331
					4F13332
					4F13333
					4F13334
					4F13335
					4F13336
					4F13337
					4F13338
					4F13339
					4F13340
					4F13341
					4F13342
					4F13343
					4F13344
					4F13345
					4F13346
					4F13347
					4F13348
					4F13349
					4F13350
					4F13351

  

DIC/ DICTIONARY OF NON-ARITHMETIC STATEMENTS (USED BY CC500).					
06145	+244677274663	DIC	OCT 244677274663	DO-GOT	4F13327
06146	-067731267462		OCT -67731267462	O-IFIS	4F13328
06147	+254562256266		OCT 254562256266	ENSESW	4F13329
06150	+316323307731		OCT 316323307731	ITCH-I	4F13330
06151	+267462254562		OCT 267462254562	FISENS	4F13331
06152	+254331273063		OCT 254331273063	ELIGHT	4F13332
06153	-373126243165		OCT -373126243165	-IFDIV	4F13333
06154	+312425233025		OCT 312425233025	IDECHE	4F13334
06155	+234277312621		OCT 234277312621	CK-IFA	4F13335
06156	+232364446443		OCT 232364446443	CCUMUL	4F13336
06157	+216346514665		OCT 216346514665	ATOROV	4F13337
06160	+255126434666		OCT 255126434666	ERFLOW	4F13338
06161	-373126506446		OCT -373126506446	-IFQUO	4F13339
06162	-233125456346		OCT -233125456346	TIENTO	4F13340
06163	-252551264346		OCT -252551264346	VERFLO	4F13341
06164	-267731267721		OCT -267731267721	W-IF-A	4F13342
06165	-226231274577		OCT -226231274577	SSIGN-	4F13343
06166	-226346477747		OCT -226346477747	STOP-P	4F13344
06167	+216462257762		OCT 216462257762	AUSE-S	4F13345
06170	+254562254331		OCT 254562254331	ENSELI	4F13346
06171	+273063772431		OCT 273063772431	GHT-DI	4F13347
06172	-042545623146		OCT -42545623146	MENSIO	4F13348
06173	-057725506431		OCT -57725506431	N-EQUI	4F13349
06174	-252143254523		OCT -252143254523	VALENC	4F13350
06175	+257726512550		OCT 257726512550	E-FREQ	4F13351

06176 -242545237077  
 06177 +234645633145  
 06200 -242577512521  
 06201 +246321472577  
 06202 -112521243145  
 06203 -076463632147  
 06204 +257751252124  
 06205 +245164447751  
 06206 +252124776651  
 06207 +316325632147  
 06210 +257766513163  
 06211 +254664634764  
 06212 -236321472577  
 06213 -265131632524  
 06214 -116444774751  
 06215 +314563774764  
 06216 -052330775125  
 06217 -263145247722  
 06220 +212342624721  
 06221 +232577254524  
 06222 +263143257726  
 06223 -065144216377  
 06224 -226422514664  
 06225 -233145257723  
 06226 -064444464577  
 06227 -112563645145  
 06230 -372321434377  
 06231 +254524747726  
 06232 -244523633146  
 06233 -057777777777

06234

OCT -242545237077  
 OCT 234645633145  
 OCT -242577512521  
 OCT 246321472577  
 OCT -112521243145  
 OCT -76463632147  
 OCT 257751252124  
 OCT 245164447751  
 OCT 252124776651  
 OCT 316325632147  
 OCT 257766513163  
 OCT 254664634764  
 OCT -236321472577  
 OCT -265131632524  
 OCT -116444774751  
 OCT 314563774764  
 OCT -52330775125  
 OCT -263145247722  
 OCT 212342624721  
 OCT 232577254524  
 OCT 263143257726  
 OCT -65144216377  
 OCT -226422514664  
 OCT -233145257723  
 OCT -064444464577  
 OCT -112563645145  
 OCT -372321434377  
 OCT 254524747726  
 OCT -244523633146  
 OCT -057777777777  
 BSS 10

END OF DICTIONARY.

\*\*\*\*\*

T/ TRANSFER TABLE (USED BY CC000).

D 06246 1 00000 0 03653 T  
 D 06247 1 00000 0 03720  
 D 06250 1 00000 0 04106  
 D 06251 1 00000 0 04150  
 D 06252 1 00000 0 04154  
 D 06253 1 00000 0 04162  
 D 06254 1 00000 0 04166  
 D 06255 1 00000 0 04033  
 D 06256 1 00000 0 04216  
 D 06257 1 00000 0 04343  
 D 06260 1 00000 0 04170  
 D 06261 1 00000 0 04251  
 D 06262 -3 00000 0 04266  
 D 06263 -3 00000 0 04375  
 D 06264 -3 00000 0 04354  
 D 06265 1 00000 0 04433  
 D 06266 1 00000 0 05012  
 D 06267 1 00000 0 04745  
 D 06270 1 00000 0 05063

TXI C0100.0  
 TXI C0200.0  
 TXI C0400.0  
 TXI C0500.0  
 TXI C0600.0  
 TXI C0700.0  
 TXI C0800.0  
 TXI C0300.0  
 TXI C1000.0  
 TXI C1300.0  
 TXI C0900.0  
 TXI C1100.0  
 TXL C1200.0  
 TXL C1500.0  
 TXL C1400.0  
 TXI C1600.0  
 TXI RBT.0  
 TXI RIT.0  
 TXI RDD.0

UENCY-  
 CONTIN  
 UE-REA  
 DTAPE-  
 READIN  
 PUTTAP  
 E-READ  
 DRUM-R  
 EAD-WR  
 ITETAP  
 E-WRIT  
 EQUPTU  
 TTAPE-  
 WRITED  
 RUM-PR  
 INT-PU  
 NCH-RE  
 WIND-B  
 ACKSPA  
 CE-END  
 FILE-F  
 ORMAT-  
 SUBROU  
 TINE-C  
 OMMON-  
 RETURN  
 -CALL-  
 END(-F  
 UNCTIO  
 N-----

4F13352  
 4F13353  
 4F13354  
 4F13355  
 4F13356  
 4F13357  
 4F13358  
 4F13359  
 4F13360  
 4F13361  
 4F13362  
 4F13363  
 4F13364  
 4F13365  
 4F13366  
 4F13367  
 4F13368  
 4F13369  
 4F13370  
 4F13371  
 4F13372  
 4F13373  
 4F13374  
 4F13375  
 4F13376  
 4F13377  
 4F13378  
 4F13379  
 4F13380  
 4F13381  
 4F133815  
 4F13382  
 4F13383  
 4F13384  
 4F13385  
 4F13386  
 4F13387  
 4F13388  
 4F13389  
 4F13390  
 4F13391  
 4F13392  
 4F13393  
 4F13394  
 4F13395  
 4F13396  
 4F13397  
 4F13398  
 4F13399  
 4F13400  
 4F13401  
 4F13402  
 4F13403  
 4F13404

D	06271	1	00000	0	04673	TXI RDC,0	READ CARD.	4F13405
D	06272	1	00000	0	04777	TXI WBT,0	WRITE TAPE.	4F13406
D	06273	1	00000	0	04764	TXI WOT,0	WRITE OUTPUT TAPE.	4F13407
D	06274	1	00000	0	05044	TXI WRD,0	WRITE DRUM.	4F13408
D	06275	1	00000	0	04753	TXI RDP,0	PRINT.	4F13409
D	06276	1	00000	0	04772	TXI PDC,0	PUNCH.	4F13410
D	06277	1	00000	0	05107	TXI RWN,0	REWIND.	4F13411
D	06300	1	00000	0	05111	TXI BSP,0	BACKSPACE.	4F13412
D	06301	1	00000	0	05066	TXI EFT,0	END FILE.	4F13413
D	06302	-3	00000	0	05113	TXL FOR,0	FORMAT.	4F13414
D	06303	-3	00000	0	04442	TXL C3000,0	SUBROUTINE.	4F13415
D	06304	-3	00000	0	04512	TXL C3100,0	COMMON.	4F13416
D	06305	1	00000	0	04536	TXI C3200,0	RETURN.	4F13417
D	06306	1	00000	0	04607	TXI C3300,0	CALL.	4F13418
D	06307	-3	00000	0	04660	TXL C3400,0	END.	4F13419
D	06310	-3	00000	0	04440	TXL C3500,0	FUNCTION.	4F13420
					06311	BSS 10		4F134205
						END OF TRANSFER TABLE.		4F13421
	06323	ENDADR	BSS	0				4F134215
						*****		4F13422
	07307	ENDA	ORG	3783				4F13423
	07307	BIN	BSS	1		VARIABLE USED BY IOT.		4F13424
	07316	CHR	BES	6		VARIABLE USED BY IOT.		4F13425
	07316		BSS	50		PARAMETERS FOR TLDOS TABLE -IOT.		4F13426
	07400	DOLEV	BSS	1		PARAMETERS FOR TLDOS TABLE -IOT.		4F13427
	07401	OP	BSS	1		VARIABLE USED BY IOT.		4F13428
	07402	RA	BSS	1		VARIABLE USED BY IOT.		4F13429
	07403	SA	BSS	1		VARIABLE USED BY IOT.		4F13430
	07404	SYM	BSS	1		VARIABLE USED BY IOT.		4F13431
	07405	TLDOS	BSS	250		DO TABLE USED BY IOT.		4F13432
						END OF WORKING STORAGE USED BY STATEA.		4F13433
						*****		4F13434
						END OF THE NON-ARITHMETIC PART OF SECTION ONE.		4F13435
						*****		4F13436
						ARITHMETIC / STATE B=		4F13437
						704 FORTRAN MASTER RECORD CARD / STATE B = F0180000.		4F13438
								4F13439
								4F13440
								4F13441
								4F13442
	00000	0	00506	0	03440	ORG 0		4F134421
	00001	0	00000	0	05214	PZE ORGB,,DMWR06		4F134422
						PZE ENDB-1		4F134423
								4F13443
	03440	ORGB	ORG	1824				4F13444
								4F13445
						THIS IS A RECODED VERSION OF STATE B OF SECTION ONE, 704		4F13446
						FORTRAN II. THE SCAN HAS BEEN COMPLETELY RECODED AND LEVEL		4F13447
						ANALYSIS HAS BEEN FOLDED OVER.		4F13448
								4F13449
						STATE B CONSISTS OF TWO PARTS....SCAN AND LEVEL ANALYSIS.		4F13450
						THE SCAN IS LEFT TO RIGHT OVER THE SOURCE STATEMENT WHICH IS		4F13451
						IN THE F REGION OF COMMON AND IS IN BCD.		4F13452
						EACH FIXED POINT CONSTANT, FLOATING POINT CONSTANT, AND BCD		4F13453

( HOLLERITH) ARGUMENT IN CALL NAME STATEMENTS ARE ENTERED IN 4F13454  
 TABLES AND GIVEN AN INTERNAL VARIABLE NAME. 4F13455  
 LEVEL ANALYSIS IS PREFORMED FOR EACH ELEMENT OF THE STATEMENT 4F13456  
 WHERE AN ELEMENT IS DEFINED AS A VARIABLE, FUNCTION NAME OR (4F13457  
 AND THE OPERATOR WHICH PRECEDES IT. 4F13458

03440	0	76000	0	00140	SLF		4F13459
03441	0	50000	0	04741	CLA SIG1ST		4F13460
03442	0	60100	0	00445	STO SIG1IX-3		4F13461
03443	0	60000	0	01122	STZ ARGCTR	CLEAR	4F13462
03444	0	60000	0	01124	STZ CHSAVE	X	4F13463
03445	0	60000	0	01117	STZ 3LBAR	X	4F13464
03446	0	60000	0	01360	STZ NBAR	X	4F13465
03447	0	60000	0	05277	STZ CBAR	X	4F13466
03450	0	60000	0	05300	STZ ABAR	X	4F13467
03451	0	60000	0	05301	STZ FSTYPE	X	4F13468
03452	-0	53400	4	01507	LXD 1BAR,4	SET NBAR=-1	4F13469
03453	-0	63400	4	01360	SXD NBAR,4	X	4F13470
03454	-0	50000	0	01500	CAL EI	SET ARERAS - EI	4F13471
03455	0	60200	0	01120	SLW ARERAS	X	4F13472
03456	0	07400	4	01671	TSX CO190X,4	SET FWA - -F AND CHCTR - 0	4F13473
03457	-0	50000	0	00422	CAL TXHOP	SET SWITCHES FOR LEFT SCAN.	4F13474
03460	0	63000	0	03563	STP MS093	X	4F13475
03461	0	63000	0	03767	STP MS310	X	4F13476
03462	0	63000	0	03750	STP MS321	X	4F13477
03463	-0	50000	0	01512	CAL ADPLUS	SET OP TO ADDITION	4F13478
03464	0	60200	0	01127	SLW E+1	X	4F13479
03465	0	60000	0	05303	STZ FNBITS	CLEAR FUNCTION NAME INDICATOR	4F13480
03466	0	60000	0	05304	STZ FNCTR	CLEAR FUNCTION ARG COUNTER.	4F13481
03467	0	60000	0	01347	STZ G	CLEAR RECEIVING CELL.	4F13482
03470	0	50200	0	01406	CLS L(0)	SET E = -0	4F13483
03471	0	60100	0	01126	STO E	X	4F13484
03472	0	53400	2	01414	LXA L(6),2	SET IR2 FOR SIX CHARS.	4F13485
03473	-0	50000	0	01124	CAL CHSAVE	CHAR IN CHSAVE, IF ANY, TO AC.	4F13486
03474	-0	10000	0	03476	TNZ MS041	X	4F13487
03475	0	07400	4	01707	TSX CO190,4	CHSAVE EMPTY, GET NEXT CHAR.	4F13488
03476	0	34000	0	01417	CAS L(9)	IS CHAR. NUMERIC.	4F13489
03477	0	02000	0	03504	TRA MS050	N/, TAKE TRA	4F13490
03500	3	00000	0	04417	TXH CM4100,0		4F13491
03501	0	07400	4	04463	TSX ROYCNV,4	X	4F13492
03502	0	02000	0	04030	TRA HOLL	RETURN 1, THIS WAS HOLLERITH.	4F13493
03503	0	02000	0	04076	TRA LATXH	THIS WAS FIXED OR FLOATING CONSTANT.	4F13494
03504	0	53400	4	01373	LXA L(10),4	PREPARE TO TEST FOR PUNCTUATION.	4F13495
03505	0	34000	4	01406	CAS CTEST,4		4F13496
03506	0	02000	0	03510	TRA MS052	X	4F13497
03507	0	02000	0	03543	TRA MS090	CHAR IS SOME PUNCTUATION.	4F13498
03510	2	00001	4	03505	TIX MS051,4,1	X	4F13499
03511	0	76700	2	00044	ALS 36,2	POSITION CHAR FOR BUILDING SYMBOL.	4F13500
03512	-0	60200	0	01347	ORS G	ADD CHAR TO THOSE IN G.	4F13501
03513	1	00006	2	03514	TXI MS061,2,6	UPDATE POSITIONING TAG.	4F13502
03514	0	07400	4	01707	TSX CO190,4	GET NEXT CHAR.	4F13503
03515	0	53400	4	01373	LXA L(10),4	PREPARE TO TEST FOR PUNCTUATION.	4F13504
03516	0	34000	4	01406	CAS CTEST,4	X	4F13505
03517	0	02000	0	03521	TRA MS072	X	4F13506
03520	0	02000	0	03545	TRA MS091	CHAR IS SOME PUNCTUATION.	4F13507



03521 2 00001 4 03516 MS072 TIX MS071,4,1  
03522 -3 00022 2 03511 TXL MS060,2,18  
03523 0 34000 0 01422 CAS L(F)  
03524 0 02000 0 03526 TRA MS073  
03525 0 02000 0 03530 TRA MS080  
03526 -3 00044 2 03511 MS073 TXL MS060,2,36  
03527 0 07400 4 03400 MS074 TSX DIAG,4  
03530 0 07400 4 01707 MS080 TSX C0190,4  
03531 0 34000 0 01375 CAS OPEN  
03532 0 02000 0 03534 TRA MS081  
03533 0 02000 0 03555 TRA MS092  
03534 0 60100 0 01331 MS081 STO FIRSTC  
03535 -0 50000 0 01422 CAL L(F)  
03536 0 76700 2 00044 ALS 36,2  
03537 -0 60200 0 01347 ORS G  
03540 3 00044 2 03527 TXH MS074,2,36  
03541 0 50000 0 01331 CLA FIRSTC  
03542 1 00006 2 03515 TXI MS070,2,6  
03543 0 60000 0 01124 MS090 STZ CHSAVE  
03544 0 02000 4 03677 TRA TRBLKA,4  
03545 0 60200 0 01124 MS091 SLW CHSAVE  
03546 -0 50000 0 01430 CAL BLANK  
03547 0 76700 2 00044 ALS 36,2  
03550 -0 60200 0 01347 ORS G  
03551 0 56000 0 01347 LDQ G  
03552 -0 60000 0 01130 STQ E+2  
03553 -0 60000 0 01350 STQ G+1  
03554 0 02000 4 03727 TRA TRBLKB,4  
03555 -0 75400 0 00000 MS092 PXD ,0  
03556 0 56000 0 01526 LDQ BLANKS  
03557 -0 76300 2 00052 LGL 42,2  
03560 -0 50100 0 01347 ORA G  
03561 0 60200 0 01347 SLW G  
03562 0 60200 0 01130 SLW E+2  
03563 00000 0 04026 MS093 \*\*\* MS335,0  
03564 -0 53400 4 00470 LXD BK,4  
03565 0 60200 4 00471 SLW FORSUB,4  
03566 -0 50000 0 00030 CAL EIFNO  
03567 -0 32000 0 01527 ANA MASK1  
03570 0 60100 4 00472 STO FORSUB+1,4  
03571 1 77776 4 03572 TXI FS010,4,-2  
03572 -0 63400 4 00470 FS010 SXD BK,4  
03573 0 07400 4 01707 FS020 TSX C0190,4  
03574 0 34000 0 01400 CAS EQUAL  
03575 0 02000 0 03577 TRA FS030  
03576 0 02000 0 03755 TRA MS322  
03577 0 34000 0 01417 FS030 CAS L(9)  
03600 0 02000 0 03603 TRA FS040  
03601 3 00000 0 04427 MS9002 TXH CM4200,0  
03602 0 07400 4 03400 TSX DIAG,4  
03603 0 07400 2 01624 FS040 TSX C0160,2  
03604 0 07400 4 03255 TSX TESTB0,4  
03605 -0 53400 2 01122 LXD ARGCTR,2  
03606 0 56000 0 01112 LDQ 1G

X  
IF THIS IS CHAR 1, 2 /R 3 GO BUILD G.  
IS THIS AN F ENDING FUNCTION NAME.  
X  
MAYBE, GO LOOK AT NEXT CHAR.  
TEST FOR UNDER 7 CHARS.  
BUILD G, 7TH CHAR IS ERROR.  
GET NEXT CHAR.  
TEST FOR I.  
X  
YES, THIS IS A FUNCTION NAME.  
NO, SAVE CURRENT CHAR.  
ADD F TO CONTENTS OF G.  
X  
X  
TEST FOR 7TH CHAR, YES IS ERROR.  
RESTORE CURRENT CHAR.  
UPDATE POSITIONING TAG.  
CLEAR  
  
OP IS IN NEXT ELEMENT, SAVE.  
ADD BLANK TO CHARS IN G.  
X  
X  
MOVE G TO E+2 AND TO G+1.  
X  
X  
NOW BRANCH TO INDIVIDUAL ROUTINE  
CLEAR  
ADD BLANKS TO SUBROUTINE NAME IN G.  
X  
X  
X  
MOVE FUNCTION NAME TO E+2.  
TXH FOR LEFT SIDE, TXL FOR RIGHT SIDE.  
THIS IS ARITH FUNCTION STATEMENT.  
ENTER FUNCTION NAME IN FORSUB TABLE.  
ENTER INTERNAL FORMULA NO IN FORSUB.  
X  
X  
UPDATE COUNT OF ENTRIES IN FORSUB.  
X  
GET FIRST CHAR OF ARGUMENT.  
TEST FOR EQUAL.  
X  
GO MOVE FROM E, E+1, E+2 TO LEFT, LEFT+1,+2  
TEST FOR ILLEGAL ARGUMENT.  
LEGAL, CONTINUE  
  
BEGINS NUMERIC, ERROR.  
COLLECT ARGUMENT NAME IN 1G.  
TEST CHAR FOLLOWING ARG FOR , OR)  
GET COUNT OF ARGUMENTS  
ENTER ARGUMENT NAME IN ARGREG TABLE.

4F13508  
4F13509  
4F13510  
4F13511  
4F13512  
4F13513  
4F13514  
4F13515  
4F13516  
4F13517  
4F13518  
4F13519  
4F13520  
4F13521  
4F13522  
4F13523  
4F13524  
4F13525  
4F13526  
4F13527  
4F13528  
4F13529  
4F13530  
4F13531  
4F13532  
4F13533  
4F13534  
4F13535  
4F13536  
4F13537  
4F13538  
4F13539  
4F13540  
4F13541  
4F13542  
4F13543  
4F13544  
4F13545  
4F13546  
4F13547  
4F13548  
4F13549  
4F13550  
4F13551  
4F13552  
4F13553  
4F13554  
4F13555  
4F13556  
4F13557  
4F13558  
4F13559  
4F13560  
4F13561

03607	-0	60000	2	05215	STQ	ARGREG,2
03610	1	77777	2	03611	TXI	FS050,2,-1
03611	-0	63400	2	01122	FS050	SXD ARGCTR,2
03612	3	77716	2	03573	TXH	FS020,2,-50
03613	0	07400	4	03400	TSX	DIAG,4
03614	0	07400	4	04470	MS200	TSX DECPNT,4
03615	0	07400	4	03400	TSX	DIAG,4
03616	0	02000	0	04076	TRA	LATXH
03617	0	76000	0	00141	MS210	SLN 1
03620	-0	53400	1	01117	LXD	3LBAR,1
03621	-0	53400	4	05300	LXD	ABAR,4
03622	0	50200	4	05301	CLS	ALPHA-4,4
03623	0	60100	1	05520	STO	LAMBDA,1
03624	-0	50000	0	01522	CAL	ADSP0P
03625	0	60200	1	05521	SLW	LAMBDA+1,1
03626	0	50000	0	01360	CLA	NBAR
03627	0	77100	0	00022	ARS	18
03630	0	60100	1	05522	STO	LAMBDA+2,1
03631	1	77775	1	03632	TXI	MS211,1,-3
03632	-0	63400	1	01117	MS211	SXD 3LBAR,1
03633	-0	53400	1	01360	LXD	NBAR,1
03634	-0	63400	1	05277	SXD	CBAR,1
03635	1	77777	1	03636	TXI	MS212,1,-1
03636	-0	63400	1	01360	MS212	SXD NBAR,1
03637	1	00003	4	03640	TXI	MS213,4,3
03640	-0	63400	4	05300	MS213	SXD ABAR,4
03641	0	02000	0	03463	TRA	MS010
03642	-0	53400	4	05300	MS220	LXD ABAR,4
03643	0	50000	4	05301	CLA	ALPHA-4,4
03644	0	73400	1	00000	PAX	,1
03645	-0	63400	1	05277	SXD	CBAR,1
03646	1	00004	4	03647	TXI	MS221,4,4
03647	-0	63400	4	05300	MS221	SXD ABAR,4
03650	0	02000	0	04425	TRA	MS020
03651	-0	53400	4	05300	MS230	LXD ABAR,4
03652	1	00003	4	03653	TXI	MS231,4,3
03653	-3	00000	4	03655	MS231	TXL MS232,4,0
03654	0	07400	4	03400	TSX	DIAG,4
03655	-0	53400	4	01122	MS232	LXD ARGCTR,4
03656	-3	00000	4	02406	TXL	STATEC,4,0
03657	-0	50000	0	05301	CAL	FSTYPE
03660	0	40000	0	01407	ADD	L(1)
03661	-0	53400	1	00470	LXD	BK,1
03662	0	62100	1	00470	STA	FORSUB-1,1
03663	-0	60200	0	01120	ORS	ARERAS
03664	0	02000	0	02406	TRA	STATEC
03665	0	02000	0	03651	TRA	MS230
03666	0	02000	0	03712	TRA	MS260
03667	0	02000	0	03617	TRA	MS210
03670	0	02000	0	03642	TRA	MS220
03671	0	07400	4	03400	MSERR=	TSX DIAG,4
03672	0	02000	0	03707	TRA	MS250
03673	0	02000	0	03707	TRA	MS250
03674	0	02000	0	03614	TRA	MS200

X  
 UPDATE COUNT OF ARGUMENTS.  
  
 TEST FOR ARGREG TABLE OVERFLOW.  
 YES, ERROR.  
 CONVERT BCD NUMBER TO BINARY  
 HOLLERITH RETURN, ERROR.  
 FLOATING POINT CONSTANT RETURN.  
 TURN , LITE ON.  
 PERFORM LEVEL ANALYSIS FOR ,

PERFORM LEVEL ANALYSIS FOR )

PERFORM LEVEL ANALYSIS FOR ENDMK.

FINISHED, HAS LEVEL BEEN REDUCED TO ZERO,  
 NO, ERROR.  
 WAS THIS AN ARITH FUNCTION STATEMENT

YES, UPDATE FUNCTION TYPE AND  
 COMPLETE FORSUB ENTRY BY ASSIGNING  
 TYPE NUMBER.

X  
 ALSO SAVE FOR LATER REFERENCE.

ENDMK

(

,

)

=

-

/

.

4F13562  
 4F13563  
 4F13564  
 4F13565  
 4F13566  
 4F13567  
 4F13568  
 4F13569  
 4F13570  
 4F13571  
 4F13572  
 4F13573  
 4F13574  
 4F13575  
 4F13576  
 4F13577  
 4F13578  
 4F13579  
 4F13580  
 4F13581  
 4F13582  
 4F13583  
 4F13584  
 4F13585  
 4F13586  
 4F13587  
 4F13588  
 4F13589  
 4F13590  
 4F13591  
 4F13592  
 4F13593  
 4F13594  
 4F13595  
 4F13596  
 4F13597  
 4F13598  
 4F13599  
 4F13600  
 4F13601  
 4F13602  
 4F13603  
 4F13604  
 4F13605  
 4F13606  
 4F13607  
 4F13608  
 4F13609  
 4F13610  
 4F13611  
 4F13612  
 4F13613  
 4F13614  
 4F13615

03675 0 02000 0 03707 TRA MS250  
03676 0 76700 0 00036 MS240 ALS 30  
03677 TRBLKA BSS 0  
03677 0 60200 0 01127 SLW E+1  
03700 0 07400 4 01707 TSX C0190,4  
03701 0 34000 0 01405 CAS STAR  
03702 0 02000 0 03476 TRA MS041  
03703 0 02000 0 03705 TRA MS241  
03704 0 02000 0 03476 TRA MS041  
03705 -0 50000 0 01525 MS241 CAL STRSTR  
03706 0 02000 0 03710 TRA MS251  
03707 0 76700 0 00036 MS250 ALS 30  
03710 0 60200 0 01127 MS251 SLW E+1  
03711 0 02000 0 03473 TRA MS040  
03712 0 76700 0 00036 MS260 ALS 30  
03713 0 60200 0 01130 SLW E+2  
03714 0 02000 0 04074 TRA LATXL  
03715 0 02000 0 03726 TRA MS300  
03716 0 02000 0 03747 TRA MS320  
03717 0 02000 0 03726 TRA MS300  
03720 0 02000 0 03726 TRA MS300  
03721 0 02000 0 03767 TRA MS310  
03722 0 02000 0 03726 TRA MS300  
03723 0 02000 0 03726 TRA MS300  
03724 0 07400 4 03400 TSX DIAG,4  
03725 0 02000 0 03726 TRA MS300  
03726 -0 75400 0 00000 MS300 PXD ,0  
03727 TRBLKB BSS 0  
03727 -0 76300 0 00006 LGL 6  
03730 0 07400 1 03242 TSX TESTFX+1,1  
03731 0 02000 0 04074 TRA LATXL  
03732 -0 50000 0 00030 CAL EIFNO  
03733 -0 32000 0 01527 ANA MASK1  
03734 0 60200 0 01347 SLW G  
03735 0 07400 1 03321 TSX TET00,1  
03736 0 00000 0 00005 5  
03737 -0 75400 0 00000 PXD ,0  
03740 0 56000 0 01356 LDQ LEFT+2  
03741 -0 76300 0 00014 LGL 12  
03742 0 40200 0 01451 SUB CALLER  
03743 -0 10000 0 04074 TNZ LATXL  
03744 0 07400 1 03321 TSX TET00,1  
03745 0 00000 0 00006 6  
03746 0 02000 0 04074 TRA LATXL  
03747 0 60000 0 01124 MS320 STZ CHSAVE  
03750 00000 0 04003 MS321 \*\*\* MS330,0  
03751 0 07400 4 04450 TSX SS000X,4  
03752 0 07400 4 01707 TSX C0190,4  
03753 0 40200 0 01400 SUB EQUAL  
03754 -0 10000 0 03671 TNZ MSERR=  
03755 0 53400 4 01411 MS322 LXA L(3),4  
03756 0 56000 4 01131 MS323 LDQ E+3,4  
03757 -0 60000 4 01357 STQ LEFT+3,4  
03760 2 00001 4 03756 TIX MS323,4,1

\*  
\* SAVE \*  
X  
GET NEXT CHAR.  
IS IT \*  
X  
YES, THIS WAS \*\*  
NO, GO COMPARE TO OTHER PUNCTUATION.  
REPLACE \* WITH \*\*  
X  
POSITION CHAR WHICH IS + OR - OR /  
PUT CURRENT OP IN E+1.  
NOW GO COLLECT SYMBOL.  
( TO SYMBOL WORD  
X  
GO PERFORM LEVEL ANALYSIS FOR (  
ENDMK  
(  
,  
)  
=  
-  
/  
.  
+  
\* CLEAR  
BASE ADDRESS FOR TAGGED TRANSFER.  
GET FIRST CHAR OF SYMBOL.  
TEST FOR FIXED OR FLOATING POINT.  
FLOATING, GO PERFORM LEVEL ANALYSIS.  
FIXED, PREPARE FORVAR ENTRY.  
X  
X  
MAKE FORVAR ENTRY.  
X  
GO PERFORM LEVEL ANALYSIS.  
CLEAR CELL FOR OP.  
TXH ON LEFT, TXL ON RIGHT OF = SIGN.  
GO PROCESS SUBSCRIPT COMBINATION.  
GET NEXT CHAR.  
TEST FOR EQUAL SIGN.  
NO, ERROR.  
MOVE CONTENTS OF E WORDS TO LEFT WORDS.  
X  
X  
X

4F13616  
4F13617  
4F13618  
4F13619  
4F13620  
4F13621  
4F13622  
4F13623  
4F13624  
4F13625  
4F13626  
4F13627  
4F13628  
4F13629  
4F13630  
4F13631  
4F13632  
4F13633  
4F13634  
4F13635  
4F13636  
4F13637  
4F13638  
4F13639  
4F13640  
4F13641  
4F13642  
4F13643  
4F13644  
4F13645  
4F13646  
4F13647  
4F13648  
4F13649  
4F13650  
4F13651  
4F13652  
4F13653  
4F13654  
4F13655  
4F13656  
4F13657  
4F13658  
4F13659  
4F13660  
4F13661  
4F13662  
4F13663  
4F13664  
4F13665  
4F13666  
4F13667  
4F13668  
4F13669

U

03761	-0	50000	0	00415	MS311	CAL TXLOP
03762	0	63000	0	03563		STP MS093
03763	0	63000	0	03767		STP MS310
03764	0	63000	0	03750		STP MS321
03765	0	76000	0	00141		SLN 1
03766	0	02000	0	03463		TRA MS010
03767	0	00000	0	03671	MS310	*** MSERR=,0
03770	0	60000	0	01124		STZ CHSAVE
03771	-0	75400	0	00000		PXD ,0
03772	-0	76300	0	00006		LGL 6
03773	0	07400	1	03242		TSX TESTFX+1,1
03774	0	02000	0	03755		TRA MS322
03775	-0	50000	0	00030		CAL EIFNO
03776	-0	32000	0	01527		ANA MASK1
03777	0	60200	0	01347		SLW G
04000	0	07400	1	03321		TSX TET00,1
04001	0	00000	0	00006		6
04002	0	02000	0	03755		TRA MS322
04003	0	07400	4	01771	MS330	TSX DIM1SR,4
04004	0	02000	0	04006		TRA MS331
04005	0	02000	0	04013		TRA MS333
04006	0	07400	4	01775	MS331	TSX DIM2SR,4
04007	0	02000	0	04011		TRA MS332
04010	0	02000	0	04013		TRA MS333
04011	0	07400	4	02005	MS332	TSX DIM3SR,4
04012	0	02000	0	04015		TRA MS334
04013	0	07400	4	04450	MS333	TSX SS000X,4
04014	0	02000	0	04076		TRA LATXH
04015	-0	50000	0	01471	MS334	CAL FNIND
04016	0	60200	0	05303		SLW FNBITS
04017	-0	75400	0	00000		PXD ,0
04020	0	56000	0	01526		LDO BLANKS
04021	-0	76300	2	00052		LGL 42,2
04022	-0	60200	0	01347		ORS G
04023	-0	60200	0	01130		ORS E+2
04024	0	07400	1	03321		TSX TET00,1
04025	0	00000	0	00011		9
04026	0	76000	0	00142	MS335	SLN 2
04027	0	02000	0	04074		TRA LATXL
04030	0	60000	0	01124	HOLL	STZ CHSAVE
04031	-0	50000	0	01352		CAL HOLCNT
04032	0	60200	0	01130		SLW E+2
04033	0	53400	2	01103		LXA N,2
04034	-0	53400	4	01724		LXD CHCTR,4
04035	0	56000	0	01365		LDO RESIDU
04036	0	53400	1	01414	C3351	LXA L(6),1
04037	-0	75400	0	00000		PXD 0,0
04040	-2	00001	4	04053	C3352	TNX C3354,4,1
04041	-0	76300	0	00006	C33525	LGL 6
04042	0	60200	0	01112		SLW 1G
04043	-0	32000	0	01374		ANA ENDMK
04044	0	40200	0	01374		SUB ENDMK
04045	-0	10000	0	04047		TNZ C3353
04046	0	07460	4	03400		TSX DIAG,4

SET SWITCHES FOR RIGHT SIDE SCAN.	4F13670
X	4F13671
X	4F13672
X	4F13673
TURN = OR ) LITE ON.	4F13674
GO SCAN NEXT ELEMENT.	4F13675
TXH FOR LEFT, TXL FOR RIGHT OF EQUAL SIGN.	4F13676
CLEAR	4F13677
CLEAR AC.	4F136775
GET FIRST CHAR OF SYMBOL.	4F13678
TEST FOR FIXED OR FLOATING POINT	4F13679
FLOATING,	4F13680
FIXED, PREPARE FORVAL ENTRY.	4F13681
X	4F13682
X	4F13683
MAKE FORVAL ENTRY.	4F13684
X	4F13685
	4F13686
SEARCH FOR THIS NAME IN THE DIM1, DIM2,	4F13687
AND DIM3 TABLES. IF IT IS FOUND IN ONE OF	4F13688
THESE TABLES IT IS A SUBSCRIPTED VARIABLE	4F13689
OF THAT NUMBER OF DIMENSIONS. IF IT IS NOT	4F13690
FOUND IN ANY DIMENSION TABLE THEN IT IS	4F13691
ASSUMED TO BE THE NAME OF A FORTRAN II	4F13692
SUBROUTINE OR FUNCTION COMPILED SEPARATELY.	4F13693
X	4F13694
GO PROCESS SUBSCRIPT COMBINATION.	4F13695
GO PERFORM LEVEL ANALYSIS.	4F13696
NOT FOUND, TREAT AS FUNCTION NAME.	4F13697
X	4F13698
X	4F13699
COMPLETE NAME WITH BLANKS.	4F13700
X	4F13701
X	4F13702
X	4F13703
ENTER NAME IN CLOSUB TABLE.	4F13704
X	4F13705
TURN FUNCTION LITE ON.	4F13706
GO PERFORM LEVEL ANALYSIS.	4F13707
CLEAR CHSAVE	4F13708
GET CURRENT HI(+I) WORD	4F13709
	4F13710
GET NUMBER OF CHARACTERS IN THIS ARG	4F13711
GET CURRENT RESIDUE CHAR COUNT	4F13712
GET CURRENT RESIDU WORD	4F13713
SET TO COLLECT SIX CHARS	4F13714
CLEAR AC	4F13715
TEST FOR NO MORE CHARS IN RESIDU	4F13716
GET NEXT CHAR	4F13717
STORE WORD	4F13718
BLANK ALL EXCEPT CURRENT CHAR	4F13719
TEST FOR INTERNAL ENDMK	4F13720
	4F13721
YES, ERROR, GO TO DIAGNOSTIC.	4F13722

04047	-0	50000	0	01112	C3353	CAL 1G	RETRIEVE WORD	4F13723
04050	-2	00001	2	04063		TNX C3358,2,1	TEST FOR ALL CHARS COLLECTED	4F13724
04051	-2	00001	1	04061		TNX C3356,1,1	TEST FOR SIX CHARS COLLECTED	4F13725
04052	0	02000	0	04040		TRA C3352	NOT SIX CHARS YET, CONTINUE COLLECTING	4F13726
04053	-0	53400	4	01614	C3354	LXD FWA,4	LOAD MQ WITH NEXT F REGION WORD	4F13727
04054	0	56000	4	00000		LDQ 0,4		4F13728
04055	1	77777	4	04056		TXI C3355,4,-1	UPDATE FWA	4F13729
04056	-0	63400	4	01614	C3355	SXD FWA,4		4F13730
04057	0	53400	4	01414		LXA L(6),4	RESET MQ CHAR COUNT TO SIX	4F13731
04060	0	02000	0	04041		TRA C33525	CONTINUE COLLECTING	4F13732
04061	0	07400	1	04437	C3356	TSX C3390,1	GO TO ENTER WORD IN HOLARG TABLE	4F13733
04062	1	00000	0	04036	C3357	TXI C3351,0,**	RETURN TO CONTINUE COLLECTING	4F13734
04063	-0	60000	0	01365	C3358	STQ RESIDU	UPDATE RESIDU	4F13735
04064	-0	63400	4	01724		SXD CHCTR,4	UPDATE CHCTR	4F13736
04065	-2	00001	1	04071		TNX C3360,1,1	TEST FOR SIX CHARS IN AC, DEC IR1	4F13737
04066	0	56000	0	01526		LDQ BLANKS	NOT SIX CHARS, PREPARE TO ADD BLANKS	4F13738
04067	-0	76300	0	00006	C3359	LGL 6	ADD BLANKS	4F13739
04070	2	00001	1	04067		TIX C3359,1,1		4F13740
04071	0	07400	1	04437	C3360	TSX C3390,1	GO TO ENTER WORD IN HOLARG TABLE	4F13741
04072	-0	50000	0	01531		CAL ALL1	GET WORD OF ONES	4F13742
04073	0	07400	1	04437		TSX C3390,1	GO TO ENTER WORD IN HOLARG TABLE	4F13743
						LEVEL ANALYSIS		4F13744
04074	-0	50000	0	00415	LATXL	CAL TXLOP		4F13745
04075	0	02000	0	04077		TRA LATXL+3		4F13746
04076	-0	50000	0	00422	LATXH	CAL TXHOP		4F13747
04077	0	63000	0	04424		STP CM4105		4F13748
04100	0	53400	1	01406	LA0000	LXA L(0),A		4F13749
04101	0	50000	0	01130		CLA E+2		4F13750
04102	-0	76000	0	00142		SLT 2	IS THIS A FUNCTION NAME	4F13751
04103	0	02000	0	04144		TRA LA0000+36	NO	4F13752
04104	0	76000	0	00142		SLN 2	YES - TURN F LITE BACK ON	4F13753
04105	-0	53400	4	00470		LXD BK,C	IS FORSUB EMPTY	4F13754
04106	-3	00000	4	04115		TXL LA0000+13,C,0	YES. GO SET FS BITS TO 0	4F13755
04107	-0	63400	4	04114		SXD LA0000+12,C		4F13756
04110	0	34000	1	00471		CAS FORSUB,A	SEARCH FN NAME IN FORSUB	4F13757
04111	1	77776	1	04114		TXI LA0000+12,A,-2		4F13758
04112	0	02000	0	04117		TRA LA0000+15		4F13759
04113	1	77776	1	04114		TXI LA0000+12,A,-2		4F13760
04114	3	00000	1	04110		TXH LA0000+8,A,0		4F13761
04115	0	60000	0	05302		STZ FSBITS	SET FSBITS TO 0	4F13762
04116	0	02000	0	04131		TRA LA0000+25		4F13763
04117	-0	50000	1	00472		CAL FORSUB+1,A	FN NAME IN FORSUB	4F13764
04120	-0	32000	0	01452		ANA MASK2	EXTRACT TYPE NUMBER	4F13765
04121	-0	53400	4	01122		LXD ARGCTR,C	IS THIS A FUNCTION STATEMENT	4F13766
04122	-3	00000	4	04126		TXL LA0000+22,C,0	NO	4F13767
04123	0	34000	0	05301		CAS FSTYPE	YES - UPDATE FS TYPE	4F13768
04124	0	62100	0	05301		STA FSTYPE		4F13769
04125	3	00000	0	00000		TXH 0,0		4F13770
04126	0	76700	0	00007		ALS 7		4F13771
04127	-0	50100	0	01464		ORA FSIND		4F13772
04130	0	60200	0	05302		SLW FSBITS		4F13773
04131	-0	53400	1	01117		LXD 3LBAR,A	LOAD LA COUNTERS	4F13774
04132	-0	53400	2	01360		LXD NBAR,B		4F13775
04133	-0	53400	4	05300		LXD ABAR,C		4F13776

04134	-3	00000	1	04160	TXL	LA0003,A,0
04135	3	75520	1	04137	TXH	LA0001,A,-1200
04136	0	07400	4	03400	TSX	DIAG,4
04137	3	77323	2	04141	TXH	LA0002,B,-301
04140	0	07400	4	03400	TSX	DIAG,4
04141	-3	00000	4	04160	TXL	LA0003,C,0
04142	3	77565	4	04160	TXH	LA0003,C,-139
04143	0	07400	4	03400	TSX	DIAG,4
04144	-0	53400	4	01122	LXD	ARGCTR,C
04145	-3	00000	4	04115	TXL	LA0000+13,C,0
04146	-0	63400	4	04153	SXD	LA0000+43,C
04147	0	34000	1	05215	CAS	ARGREG,A
04150	1	77777	1	04153	TXI	LA0000+43,A,-1
04151	0	02000	0	04155	TRA	MS1018
04152	1	77777	1	04153	TXI	LA0000+43,A,-1
04153	3	00000	1	04147	TXH	LA0000+39,A,0
04154	0	02000	0	04115	TRA	LA0000+13
04155	-0	75400	1	00000	PXD	0,A
04156	0	77100	0	00013	ARS	11
04157	0	02000	0	04127	TRA	LA0000+23
04160	0	50000	0	03601	CLA	MS9002
04161	0	62100	0	04366	STA	LA4320
04162	-0	75400	0	00000	PXD	0,0
04163	0	56000	0	01130	LDQ	E+2
04164	-0	60000	1	05533	STQ	LAMBDA+11,A
04165	-0	60000	1	05530	STQ	LAMBDA+8,A
04166	-0	60000	1	05525	STQ	LAMBDA+5,A
04167	-0	76300	0	00006	LGL	6
04170	0	60100	0	01331	STO	FIRSTC
04171	0	40200	0	01375	SUB	OPEN
04172	0	10000	0	04201	TZE	LA003
04173	0	50000	0	03500	CLA	MS4007
04174	-0	76000	0	00142	SLT	2
04175	0	02000	0	04200	TRA	LA002
04176	0	76000	0	00142	SLN	2
04177	0	50000	0	04227	CLA	FINI03
04200	0	62100	0	04366	STA	LA4320
04201	0	50000	0	01126	CLA	E
04202	0	60100	1	05531	STO	LAMBDA+9,A
04203	0	60100	1	05526	STO	LAMBDA+6,A
04204	0	60100	1	05523	STO	LAMBDA+3,A
04205	-0	50000	0	01522	CAL	ADSP0P
04206	0	60200	1	05535	SLW	LAMBDA+13,A
04207	0	60200	1	05532	SLW	LAMBDA+10,A
04210	0	60200	1	05527	SLW	LAMBDA+7,A
04211	-0	75400	0	00000	PXD	0,0
04212	0	56000	0	01127	LDQ	E+1
04213	-0	60000	1	05521	STQ	LAMBDA+1,A
04214	-0	76300	0	00006	LGL	6
04215	0	34000	0	01405	CAS	STAR
04216	0	02000	0	04262	TRA	LA0015
04217	0	02000	0	04252	TRA	LA0010
04220	-0	76000	0	00142	SLT	2
04221	0	02000	0	04236	TRA	LA0044

ERROR..LAMBDA TABLE EXCEEDED.

ERROR..BETA TABLE EXCEEDED

ERROR..ALPHA TABLE EXCEEDED

VARIABLE OR (

NOT AN FS - GO SET FS BITS TO 0

FUNCTION STATEMENT

SEARCH FREE VARIABLE TABLE

NOT PRESENT - GO SET FS BITS TO 0

PRESENT - STORE TYPE IN FS BITS

/ SIGN  
\* OR \*\* SIGN  
+ OR - SIGN

4F13777  
4F13778  
4F13779  
4F13780  
4F13781  
4F13782  
4F13783  
4F13784  
4F13785  
4F13786  
4F13787  
4F13788  
4F13789  
4F13790  
4F13791  
4F13792  
4F13793  
4F13794  
4F13795  
4F13796  
4F13797  
4F13798  
4F13799  
4F13800  
4F13801  
4F13802  
4F13803  
4F13804  
4F13805  
4F13806  
4F13807  
4F13808  
4F13809  
4F13810  
4F13811  
4F13812  
4F13813  
4F13814  
4F13815  
4F13816  
4F13817  
4F13818  
4F13819  
4F13820  
4F13821  
4F13822  
4F13823  
4F13824  
4F13825  
4F13826  
4F13827  
4F13828  
4F13829  
4F13830

```

04222 1 77775 2 04223 TXI MS1033,B,-3
04223 -0 75400 2 00000 MS1033 PXD ,B
04224 0 77100 0 00022 ARS 18
04225 0 60100 1 05536 STO LAMBDA+14,A
04226 1 00001 2 04227 TXI FINI03,B,1
04227 -0 75400 2 04432 FINI03 PXD CM4300,B
04230 0 77100 0 00022 ARS 18
04231 -0 76000 0 00003 SSM
04232 0 60100 1 05534 STO LAMBDA+12,A
04233 -0 76000 0 00141 LA0041 SLT 1
04234 1 00001 2 04330 TXI L43130,B,1
04235 1 00001 2 04272 TXI L13130,B,1
04236 0 50000 0 01331 LA0044 CLA FIRSTC
04237 0 34000 0 01375 CAS OPEN
04240 0 02000 0 04242 TRA LA0050
04241 1 77775 2 04245 TXI LA0058,B,-3
04242 -0 76000 0 00141 LA0050 SLT 1
04243 1 77777 2 04334 TXI LA4000,B,-1
04244 1 77777 2 04276 TXI LA1000,B,-1
04245 -0 75400 2 00000 LA0058 PXD ,B
04246 0 77100 0 00022 ARS 18
04247 0 60100 1 05533 STO LAMBDA+11,A
04250 0 40000 0 01407 ADD L(1)
04251 1 00001 2 04233 TXI LA0041,2,1
04252 0 16200 0 04262 LA0010 TQP LA0015
04253 -0 76000 0 00142 SLT 2
04254 0 02000 0 04256 TRA LA0072
04255 1 77777 2 04311 TXI L23000,B,-1
04256 0 50000 0 01331 LA0072 CLA FIRSTC
04257 0 40200 0 01375 SUB OPEN
04260 -0 10000 0 04324 TNZ LA2000
04261 1 77777 2 04304 TXI L22000,B,-1
04262 -0 76000 0 00142 LA0015 SLT 2
04263 0 02000 0 04265 TRA LA0021
04264 1 77776 2 04374 TXI L33000,B,-2
04265 0 50000 0 01331 LA0021 CLA FIRSTC
04266 0 34000 0 01375 CAS OPEN
04267 1 77777 2 04407 TXI LA3000,B,-1
04270 1 77776 2 04367 TXI L32000,B,-2
04271 1 77777 2 04407 TXI LA3000,B,-1
04272 0 60200 4 05310 L13130 SLW ALPHA+3,C
04273 0 50200 0 01406 CLS L(0)
04274 0 60100 1 05531 STO LAMBDA+9,A
04275 0 76000 0 00141 SLN 1
04276 0 50200 0 05277 LA1000 CLS CBAR
04277 0 77100 0 00022 ARS 18
04300 0 60200 4 05305 SLW ALPHA,C
04301 1 77775 4 04302 TXI LA1040,C,-3
04302 -0 63400 4 05300 LA1040 SXD ABAR,C
04303 0 02000 0 04335 TRA LA4010
04304 -0 75400 2 00000 L22000 PXD ,B
04305 0 77100 0 00022 ARS 18
04306 0 60100 1 05525 STO LAMBDA+5,A
04307 0 40000 0 01407 ADD L(1)

```

-N TO -(N+3)

STO (N+3) IN LAMBDA+3 (L+4)+2  
-(N+3) TO -(N+2)

STO -(N+2) IN LAMBDA+3 (L+4)

UNARY... -(N+2) TO -(N+1)  
BINARY... -(N+2) TO -(N+1)

EXAMINE SYMBOL

-N TO -(N+3)

UNARY... -NTO -(N+1)  
BINARY... -N TO -(N+1)

STO S(N+3) IN LAMBDA +3(L+3)+2  
FORM -(N+2) IN ADD (ACC)

GO TO \* ROUTINE  
\*\*

-N TO -(N+1)

-N TO -(N+1)  
\* OR /

-N TO -(N+2)

-N TO -N(+2)

STO -(N+2) IN ALPHA+A+3

STO -0 IN LAMBDA +3(L+3)

STO -C IN ALPHA+A  
-A TO -(A+3)

STO S(N+1) IN LAMBDA+3(L+1)+2

```

4F13831
4F13832
4F13833
4F13834
4F13835
4F13836
4F13837
4F13838
4F13839
4F13840
4F13841
4F13842
4F13843
4F13844
4F13845
4F13846
4F13847
4F13848
4F13849
4F13850
4F13851
4F13852
4F13853
4F13854
4F13855
4F13856
4F13857
4F13858
4F13859
4F13860
4F13861
4F13862
4F13863
4F13864
4F13865
4F13866
4F13867
4F13868
4F13869
4F13870
4F13871
4F13872
4F13873
4F13874
4F13875
4F13876
4F13877
4F13878
4F13879
4F13880
4F13881
4F13882
4F13883
4F13884

```

04310	1	00001	2	04320		TXI	L23130,B,1
04311	-0	75400	2	00000	L23000	PXD	,B
04312	0	77100	0	00022		ARS	18
04313	0	60100	1	05530		STO	LAMBDA+8,A
04314	0	40000	0	01407		ADD	L(1)
04315	-0	76000	0	00003		SSM	
04316	1	00001	2	04317		TXI	L23090,B,1
04317	0	60100	1	05526	L23090	STO	LAMBDA+6,A
04320	0	60200	4	05305	L23130	SLW	ALPHA,C
04321	0	50200	0	01406		CLS	L(0)
04322	0	60100	1	05523		STO	LAMBDA+3,A
04323	0	76000	0	00141		SLN	1
04324	0	50200	4	05304	LA2000	CLS	ALPHA-1,C
04325	0	60100	1	05520		STO	LAMBDA,A
04326	0	50000	0	01360		CLA	NBAR
04327	1	00006	1	04355		TXI	LA4180,A,6
04330	0	60200	4	05305	L43130	SLW	ALPHA,C
04331	0	50200	0	01406		CLS	L(0)
04332	0	60100	1	05531		STO	LAMBDA+9,A
04333	0	76000	0	00141		SLN	1
04334	0	50200	4	05302	LA4000	CLS	ALPHA-3,C
04335	0	60100	1	05520	LA4010	STO	LAMBDA,A
04336	0	50200	0	01360		CLS	NBAR
04337	0	77100	0	00022		ARS	18
04340	0	60200	4	05303		SLW	ALPHA-2,C
04341	0	60200	1	05522		SLW	LAMBDA+2,A
04342	0	60100	1	05523		STO	LAMBDA+3,A
04343	-0	75400	2	00000		PXD	,B
04344	0	77100	0	00022		ARS	18
04345	0	60100	1	05525		STO	LAMBDA+5,A
04346	0	60100	4	05304		STO	ALPHA-1,C
04347	-0	76000	0	00003		SSM	
04350	0	60100	1	05526		STO	LAMBDA+6,A
04351	1	77777	2	04352		TXI	LA4150,B,-1
04352	-0	50000	0	01524	LA4150	CAL	ADSTAR
04353	0	60200	1	05524		SLW	LAMBDA+4,A
04354	-0	75400	2	00000	LA4170	PXD	,B
04355	0	77100	0	00022	LA4180	ARS	18
04356	0	60100	1	05530		STO	LAMBDA+8,A
04357	-0	60200	1	05531		ORS	LAMBDA+9,A
04360	-0	50000	0	01525		CAL	STRSTR
04361	0	60200	1	05527		SLW	LAMBDA+7,A
04362	-0	50000	0	01522		CAL	ADSPOP
04363	-0	50100	0	05302		ORA	FSBITS
04364	-0	50100	0	05303		ORA	FNBITS
04365	0	60200	1	05532		SLW	LAMBDA+10,A
04366	1	77767	1	00000	LA4320	TXI	**A,-9
04367	-0	75400	2	00000	L32000	PXD	,B
04370	0	77100	0	00022		ARS	18
04371	0	60100	1	05530		STO	LAMBDA+8,A
04372	0	40000	0	01407		ADD	L(1)
04373	1	00001	2	04403		TXI	L33130,B,1
04374	-0	75400	2	00000	L33000	PXD	,B
04375	0	77100	0	00022		ARS	18

-(N+1) TO -N

STO S(N+1) IN LAMBDA+3(L+2)+2

-(N+1) TO -N

STO -N IN LAMBDA+3(L+2)

STO -N IN ALPHA +A

STO -0 IN LAMBDA+3(L+1)

STO C(ALPHA+A-1) IN LAMBDA+3L

STO -(N+2) IN ALPHA+A

STO -0 IN LAMBDA+3(L+3)

STO C(ALPHA+A-3) IN LAMBDA+3L

STO-N IN ALPHA+A-2

STO S(N) IN LAMBDA+3L+2

STO -N IN LAMBDA+3(L+1)

STO S(N+1) IN LAMBDA+3(L+1)+2

STO-(N+1) IN ALPHA+A-1

STO -(N+1) IN LAMBDA+3(L+2)

-(N+1) TO -(N+2)

STO \* IN LAMBDA+3(L+1)+1

STOS(N+2) IN LAMBDA+3(L+2)+2

STO -(N+2) IN LAMBDA+3(L+3)

STO SPOP IN LAMBDA+3(L+2)+1

STO SPOP IN LAMBDA+3(L+3)+1

STO 5(N+2) IN LAMBDA+3(L+2)+2

-(N+2) TO -(N+1)

4F13885

4F13886

4F13887

4F13888

4F13889

4F13890

4F13891

4F13892

4F13893

4F13894

4F13895

4F13896

4F13897

4F13898

4F13899

4F13900

4F13901

4F13902

4F13903

4F13904

4F13905

4F13906

4F13907

4F13908

4F13909

4F13910

4F13911

4F13912

4F13913

4F13914

4F13915

4F13916

4F13917

4F13918

4F13919

4F13920

4F13921

4F13922

4F13923

4F13924

4F13925

4F13926

4F13927

4F13928

4F13929

4F13930

4F13931

4F13932

4F13933

4F13934

4F13935

4F13936

4F13937

4F13938



04376	0	60100	1	05533	STO LAMBDA+11,A	STO S(N+2) IN LAMBDA+3(L+3)+2	4F13939
04377	0	40000	0	01407	ADD L(1)		4F13940
04400	-0	76000	0	00003	SSM		4F13941
04401	1	00001	2	04402	TXI L33090,B,1	-(N+2) TO -(N+1)	4F13942
04402	0	60100	1	05531	L33090 STO LAMBDA+9,A	STO -(N+1) IN LAMBDA+3(L+3)	4F13943
04403	0	60200	4	05305	L33130 SLW ALPHA,C	STO -(N+1) IN ALPHA+A	4F13944
04404	0	50200	0	01406	CLS L(0)		4F13945
04405	0	60100	1	05526	STO LAMBDA+6,A		4F13946
04406	0	76000	0	00141	SLN 1		4F13947
04407	0	50200	4	05303	LA3000 CLS ALPHA-2,C	STO C(ALPHA+A-2) IN LAMBDA+3L	4F13948
04410	0	60100	1	05520	STO LAMBDA,A		4F13949
04411	0	50200	0	01360	CLS NBAR		4F13950
04412	0	77100	0	00022	ARS 18		4F13951
04413	0	60200	4	05304	SLW ALPHA-1,C	STO -N IN ALPHA+A-1	4F13952
04414	0	60200	1	05522	SLW LAMBDA+2,A	STO S(N) IN LAMBDA+3L+2	4F13953
04415	0	60100	1	05523	STO LAMBDA+3,A	STO -N IN LAMBDA+3(L+1)	4F13954
04416	1	00003	1	04354	TXI LA4170,A,3		4F13955
04417	1	77775	1	04420	CM4100 TXI CM4101,A,-3	LA COUNTER MODIFICATION ROUTINES	4F13956
04420	-0	63400	1	01117	CM4101 SXD 3LBAR,A		4F13957
04421	-0	63400	2	05277	CM4102 SXD CBAR,B		4F13958
04422	1	77777	2	04423	TXI CM4104,B,-1		4F13959
04423	-0	63400	2	01360	CM4104 SXD NBAR,B		4F13960
04424	0	00000	0	03463	CM4105 *** MS010,0		4F13961
04425	-0	50000	0	01524	MS020 CAL ADSTAR		4F13962
04426	0	02000	0	03464	TRA MS030		4F13963
04427	1	77775	1	04430	CM4200 TXI CM4201,A,-3		4F13964
04430	-0	63400	1	01117	CM4201 SXD 3LBAR,A		4F13965
04431	1	77777	4	04435	TXI CM4303,C,-1		4F13966
04432	1	77772	1	04433	CM4300 TXI CM4301,A,-6		4F13967
04433	-0	63400	1	01117	CM4301 SXD 3LBAR,A		4F13968
04434	1	77777	4	04435	TXI CM4303,C,-1		4F13969
04435	-0	63400	4	05300	CM4303 SXD ABAR,C		4F13970
04436	1	77777	2	04421	TXI CM4102,B,-1		4F13971
					*****		*4F13972
							4F13973
							4F13974
							4F13975
							4F13976
							4F13977
							4F13978
							4F13979
							4F13980
							4F13981
							4F13982
							4F13983
							*4F13984
							4F13985
							4F13986
							4F13987
							4F13988
							4F13989
							4F13990
							4F13991
							4F13992
04437	-0	63400	1	04062	C3390 SXD C3357,1	CLOSED SUBROUTINE TO MAKE ENTRIES IN HOLARG TABLE	
04440	0	60200	0	01112	SLW 1G	SAVE CALLING IR	
04441	0	07400	1	03321	TSX TET00,1	MOVE WORD TO BE ENTERED TO 1G	
04442	0	00000	0	00015	13	GO TO ENTER WORD IN HOLARG TABLE	
04443	0	50000	0	01352	CLA HOLCNT		
04444	0	40000	0	01407	ADD L(1)	UPDATE HOLCNT	
04445	0	60100	0	01352	STO HOLCNT		
04446	-0	53400	1	04062	LXD C3357,1	RELOAD CALLING IR	
04447	0	02000	1	00001	TRA 1,1	RETURN TO CALLER+1	
					*****		*4F13984
							4F13985
							4F13986
							4F13987
							4F13988
							4F13989
							4F13990
							4F13991
							4F13992
04450	-0	63400	4	04503	SS000X SXD SSIR4,4	SAVE CALLING TAG.	
04451	0	07400	4	02614	TSX SS000,4	GO TO SUBSCRIPT SCAN AND ANALYSIS ROUTINE.	
04452	0	07400	4	02437	TSX RA000,4	GO TO RELATIVE ADDRESS COMPUTATION ROUTINE.	
04453	-0	50000	0	01351	CAL GTAG		
04454	-0	32000	0	01527	ANA MASK1		

04455 0 60200 0 01141  
 04456 0 07400 4 00450  
 04457 0 76700 0 00017  
 04460 -0 60200 0 01126  
 04461 -0 53400 4 04503  
 04462 0 02000 4 00001

SLW E+11  
 TSX SIG1IX,4  
 ALS 15  
 ORS E  
 LXD SSIR4,4  
 TRA 1,4

GO ENTER THIS RELATIVE ADDRESS IN SIGMA1.  
 POSITION SIGMA TAG.  
 ADD SIGMA TAG TO I-TAU TAGS IN E.  
 RELOAD CALLING TAG.  
 RETURN TO CALLER +1.

4F13993  
 4F13994  
 4F13995  
 4F13996  
 4F13997  
 4F13998  
 4F13999

\*\*\*\*\*4F14000

ROYCNV,4/ CALLS=C0190,FXCNIX,FLCNIX,DIAG.  
 ROYCNV DOES FIXED AND FLOATING POINT CONVERSION FOR SECTION  
 ARITHMETIC.  
 ROYCNV= ENTRY POINT FOR FIXED OR FLOATING POINT INTEGERS.

4F14001  
 4F14002  
 4F14003  
 4F14004  
 4F14005

04463 0 60100 0 01103 ROYCNV STO N  
 04464 -0 63400 4 04467 SXD EXIT,4  
 04465 0 60000 0 01100 STZ DOE  
 04466 0 50000 0 04505 CLA CM1  
 04467 1 00000 0 04474 EXIT TXI IN2,0,\*\*

SAVE DECIMAL DIGIT IN N.  
 SAVE C(XR4) FOR RETURN.  
 CLEAR DOE (IMPLICIT EXPONENT).  
 PICK UP SWITCH CONTROL,  
 AND GO SET SWITCH.  
 DECPNT= ENTRY POINT FOR FLOATING POINT FRACTIONS.

4F14006  
 4F14007  
 4F14008  
 4F14009  
 4F14010  
 4F14011

04470 0 60000 0 01103 DECPNT STZ N  
 04471 -0 63400 4 04467 SXD EXIT,4  
 04472 0 60000 0 01100 STZ DOE  
 04473 -0 50000 0 04505 NC7 CAL CM1  
 04474 0 63000 0 04515 IN2 STP CM2  
 04475 0 63000 0 04527 STP CM3  
 04476 0 14000 0 04477 TOV NC5

CLEAR N (NO INTEGER).  
 SAVE C(XR4) FOR RETURN.  
 CLEAR DOE (IMPLICIT EXPONENT).  
 PICK UP SWITCH CONTROL.  
 SET SWITCHES CM2, AND  
 CM3.  
 TURN OFF OV TRIGGER.

4F14012  
 4F14013  
 4F14014  
 4F14015  
 4F14016  
 4F14017  
 4F14018

04477 0 07400 4 01707 NC5 TSX C0190,4  
 04500 0 60200 0 01124 SLW CHSAVE  
 04501 0 34000 0 01423 CAS L(H)  
 04502 1 00000 0 04504 TXI NC1,0  
 04503 1 00000 0 04650 SSIR4 TXI HEXIT,0  
 04504 0 34000 0 01373 NC1 CAS TEN  
 04505 -3 00000 0 04521 CM1 TXL NC2,0

\* GO GET NEXT NB CHARACTER IN THE AC.  
 SAVE IT FOR STATE B, AND THEN  
 COMPARE IT WITH H.  
 IF H, GO TO HEXIT.  
 IF NOT H, CONTINUE  
 AND COMPARE WITH TEN.  
 CHAR EXCEEDS 10, SO IS NON-NUMERIC.

4F14019  
 4F14020  
 4F14021  
 4F14022  
 4F14023  
 4F14024  
 4F14025

04506 -0 75400 0 00000 PXD ,0  
 04507 0 60100 0 01102 STO H  
 04510 0 50000 0 01103 CLA N  
 04511 0 76700 0 00002 ALS 2  
 04512 0 40000 0 01103 ADD N  
 04513 0 76700 0 00001 ALS 1

CLEAR THE AC (MACHINE ERROR).  
 CHARACTER IS NUMERIC, SO HOLD IT.  
 MULTIPLY THE PREVIOUS  
 PARTIAL RESULT (OR ZERO)  
 BY 10,  
 AND ADD IN  
 THE CURRENT DIGIT.

4F14026  
 4F14027  
 4F14028  
 4F14029  
 4F14030  
 4F14031  
 4F14032

04514 0 40000 0 01102 ADD H  
 04515 3 00000 0 04536 CM2 TXH NC3,0  
 04516 0 14000 0 04544 TOV NC4  
 04517 0 60100 0 01103 STO N  
 04520 1 00000 0 04477 TXI NC5,0  
 04521 0 34000 0 01403 NC2 CAS POINT

SWITCH (NO TRANSFER IF INTEGER).  
 TEST OVERFLOW, AND  
 IF NONE, SAVE NEW PARTIAL RESULT.  
 THEN GO PICK UP NEXT CHARACTER.  
 COMPARE NON-NUMERIC WITH A POINT.  
 IF GREATER THAN 27, GO OUT.  
 IF POINT, GO BACK AND SET SWITCH.

4F14033  
 4F14034  
 4F14035  
 4F14036  
 4F14037  
 4F14038  
 4F14039

04522 1 00000 0 04527 TXI CM3,0  
 04523 1 00000 0 04473 TXI NC7,0  
 04524 0 34000 0 04657 CAS L(E)  
 04525 1 00000 0 04527 TXI CM3,0  
 04526 1 00000 0 04546 TXI EC1,0  
 04527 3 00000 0 04605 CM3 TXH FN4,0  
 04530 0 50000 0 01103 CLA N  
 04531 0 76700 0 00022 MS9506 ALS 18  
 04532 0 60100 0 01347 STO G

IF LESS THAN 27, COMPARE WITH E.  
 IF GREATER THAN 21, GO OUT.  
 IF E, GO TO EXPONENT ROUTINE.  
 SWITCH (NO TRANSFER IF INTEGER).  
 PICK UP CONVERTED CONSTANT, AND  
 STORE IN THE  
 DECREMENT OF G, AND

4F14040  
 4F14041  
 4F14042  
 4F14043  
 4F14044  
 4F14045  
 4F14046

	04533	0	07400	4	00417	TSX	FXCNIX,4
	04534	-0	50100	0	01517	ORA	FIXVAR
D	04535	1	00000	0	04636	TXI	EXITR,0
	04536	0	14000	0	04543	TOV	NC8
	04537	0	60100	0	01103	STO	N
	04540	0	50200	0	01407	CLS	L(1)
	04541	0	40000	0	01100	ADD	DOE
	04542	0	60100	0	01100	STO	DOE
D	04543	1	00000	0	04477	TXI	NC5,0
	04544	0	50000	0	01407	CLA	L(1)
D	04545	1	00000	0	04541	TXI	NC9,0
	04546	0	07400	4	01707	TSX	C0190,4
	04547	0	60200	0	01124	SLW	CHSAVE
	04550	0	60000	0	01101	STZ	EKE
	04551	0	34000	0	01401	CAS	11Z
D	04552	1	00000	0	04602	TXI	FN5,0
D	04553	1	00000	0	04561	TXI	EC3,0
	04554	0	34000	0	01404	CAS	12Z
D	04555	1	00000	0	04602	TXI	FN5,0
D	04556	1	00000	0	04566	TXI	EC6,0
	04557	0	34000	0	01420	CAS	MINUS
D	04560	1	00000	0	04602	TXI	FN5,0
	04561	0	50200	0	01101	CLS	EKE
	04562	0	34000	0	01373	CAS	TEN
D	04563	1	00000	0	04602	TXI	FN5,0
	04564	-0	75400	0	00000	PXD	,0
	04565	0	60100	0	01101	STO	EKE
	04566	0	07400	4	01707	TSX	C0190,4
	04567	0	60200	0	01124	SLW	CHSAVE
	04570	0	34000	0	01373	CAS	TEN
D	04571	1	00000	0	04602	TXI	FN5,0
	04572	-0	75400	0	00000	PXD	,0
	04573	0	60100	0	01102	STO	H
	04574	0	50000	0	01101	CLA	EKE
	04575	0	76700	0	00002	ALS	2
	04576	0	40000	0	01101	ADD	EKE
	04577	0	76700	0	00001	ALS	1
	04600	0	36100	0	01102	ACL	H
D	04601	1	00000	0	04565	TXI	EC5,0
	04602	0	50000	0	01101	CLA	EKE
	04603	0	40000	0	01100	ADD	DOE
	04604	0	60100	0	01100	STO	DOE
	04605	0	50000	0	01103	CLA	N
	04606	0	10000	0	04633	TZE	MS9500
	04607	0	62100	0	04652	STA	K1
	04610	0	77100	0	00017	ARS	15
	04611	0	10000	0	04613	TZE	FN1
	04612	-0	50100	0	04653	ORA	K2
	04613	0	30000	0	04652	FAD	K1
	04614	-0	77300	0	00010	RQL	8
	04615	0	76000	0	00010	RND	
	04616	-0	50100	0	04654	ORA	K3
	04617	0	53400	1	01100	LXA	DOE,1
	04620	-3	00000	1	04633	TXL	MS9500,1,0

* GO MAKE FIXCON ENTRY.	4F14047
CREATE INTERNAL FXD-PT VARIABLE,AND	4F14048
GO TAKE EXITR.	4F14049
IF THERE WAS NO OVERFLOW,	4F14050
SAVE PARTIAL RESULT, AND	4F14051
SUBTRACT 1 FROM DOE	4F14052
TO ADJUST EXPONENT	4F14053
IN FINAL RESULT.	4F14054
THEN GO PICK UP NEXT CHARACTER.	4F14055
ADD 1 TO DOE ,	4F14056
IF THERE WAS INTEGER OVERFLOW.	4F14057
* GO GET NEXT NB CHARACTER IN THE AC.	4F14058
SAVE IT FOR STATE B, AND	4F14059
CLEAR EKE (EXPLICIT EXPONENT).	4F14060
COMPARE CHARACTER WITH A DASH.	4F14061
IF GREATER THAN 32, GO OUT.	4F14062
IF A DASH, SET EKE MINUS.	4F14063
IF LESS THAN 32, COMPARE WITH PLUS.	4F14064
IF GREATER THAN 16, GO OUT.	4F14065
IF PLUS, GO EXAMINE NEXT CHAR.	4F14066
IF LESS THAN 16,COMPARE WITH MINUS.	4F14067
IF GREATER THAN 12, GO OUT.	4F14068
IF MINUS, SET EKE TO -0.	4F14069
COMPARE WITH TEN.	4F14070
IF NON-NUMERIC, GO EXAMINE NEXT CH.	4F14071
CLEAR ACC,	4F14072
SAVE PARTIAL RESULT(OR 0) IN EKE.	4F14073
* GO GET NEXT NB CHARACTER IN THE AC.	4F14074
SAVE IT FOR STATE B,	4F14075
AND COMPARE WITH TEN.	4F14076
CHAR EXCEEDS 10, SO IS NON-NUMERIC.	4F14077
CLEAR THE AC (MACHINE ERROR).	4F14078
CHARACTER IS NUMERIC, SO HOLD IT.	4F14079
MULTIPLY THE PREVIOUS	4F14080
PARTIAL RESULT (OR ZERO)	4F14081
BY 10,	4F14082
AND ADD IN	4F14083
THE CURRENT DIGIT.	4F14084
CONTINUE UNTIL NON-NUMERIC IS MET.	4F14085
COMBINE EXPLICIT EXPONENT	4F14086
WITH IMPLICIT EXPONENT,	4F14087
AND SAVE IN DOE.	4F14088
IF N CONTAINS ZERO, TAKE	4F14089
FLO PT CONSTANT RETURN.	4F14090
PUT INTEGER INTO FLO PT WORD,	4F14091
ADJUST, AND	4F14092
IF MORE THAN 15 BITS IN LENGTH	4F14093
AFFIX CORRECT EXPONENT.	4F14094
THEN FLOATING ADD THE RESULT	4F14095
OF INTEGER CONVERSION, AND	4F14096
ROUND --TO OBTAIN	4F14097
NORMALIZED RESULT.	4F14098
EXAMINE THE C(DOE), AND	4F14099
IF ZERO, TAKE FLO PT RETURN.	4F14100

D	04621	-3	00062	1	04623	TXL	FN2,1,50
	04622	1	00000	0	04647	TXI	CER,0
	04623	0	56000	0	01100	LDQ	DOE
	04624	0	16200	0	04641	TQP	FN3
	04625	0	24100	1	04740	FDP	TAB,1
	04626	-0	60000	0	01103	STQ	N
	04627	0	50000	0	01103	CLA	N
	04630	0	36100	0	04655	ACL	K4
	04631	-0	76000	0	00001	PBT	
D	04632	1	00000	0	04647	TXI	CER,0
	04633	0	60100	0	01347	STO	G
	04634	0	07400	4	00424	TSX	FLCNIX,4
	04635	-0	50100	0	01513	ORA	FLOVAR
	04636	0	60200	0	01130	SLW	E+2
	04637	-0	53400	4	04467	LXD	EXIT,4
	04640	0	02000	4	00002	TRA	2,4
	04641	0	60100	0	01103	STO	N
	04642	0	56000	0	01103	LDQ	N
	04643	0	26000	1	04740	FMP	TAB,1
	04644	0	36100	0	04656	ACL	K5
	04645	-0	76000	0	00001	PBT	
	04646	1	00000	0	04633	TXI	MS9500,0
	04647	0	07400	4	03400	TSX	DIAG,4
D	04650	-0	53400	4	04467	LXD	EXIT,4
	04651	0	02000	4	00001	TRA	1,4
	04652	+233000000000		K1	OCT	233000000000	
	04653	+252000000000		K2	OCT	252000000000	
	04654	+000400000000		K3	OCT	4000000000	
	04655	+335000000000		K4	OCT	335000000000	
	04656	+043000000000		K5	OCT	430000000000	
	04657	000000000025		L(E)	BCD	100000E	
	04660	+375536246150			OCT	375536246150	
	04661	+372430204754			OCT	372430204754	
	04662	+366700324573			OCT	366700324573	
	04663	+363546566774			OCT	363546566774	
	04664	+360436770626			OCT	360436770626	
	04665	+354713132675			OCT	354713132675	
	04666	+351557257061			OCT	351557257061	
	04667	+346445677215			OCT	346445677215	
	04670	+342726145174			OCT	342726145174	
	04671	+337570120775			OCT	337570120775	
	04672	+334454732312			OCT	334454732312	
	04673	+330741367020			OCT	330741367020	
	04674	+325601137163			OCT	325601137163	
	04675	+322464114134			OCT	322464114134	
	04676	+316755023372			OCT	316755023372	
	04677	+313612334310			OCT	313612334310	
	04700	+310473426555			OCT	310473426555	
	04701	+304770675742			OCT	304770675742	
	04702	+301623713116			OCT	301623713116	
	04703	+276503074076			OCT	276503074076	
	04704	+273402374713			OCT	273402374713	

IF GREATER THAN 50, THEN	4F14101
ERROR. --GO TO DIAGNOSTIC.	4F14102
DETERMINE WHETHER INTEGER WAS	4F14103
TO THE RIGHT OR TO THE LEFT OF DP.	4F14104
IF TO THE RIGHT, DIVIDE BY A	4F14105
SUITABLE CONSTANT	4F14106
TO ADJUST RESULT	4F14107
AND TEST FOR OUT OF RANGE.	4F14108
IF P=1, SKIP TO ARITH RETURN.	4F14109
ERROR. --GO TO DIAGNOSTIC.	4F14110
STORE IN G, AND	4F14111
* GO MAKE FLOCON ENTRY.	4F14112
CREATE INTERNAL FLO-PT VARIABLE,	4F14113
SAVE VARIABLE IN E+2,	4F14114
RESTORE THE C(XR4), AND	4F14115
* RETURN TO MAIN ROUTINE.	4F14116
IF INTEGER WAS SITUATED	4F14117
TO THE LEFT OF THE DECIMAL POINT,	4F14118
MULTIPLY BY A SUITABLE	4F14119
CONSTANT TO ADJUST AND TEST RANGE.	4F14120
IF P=1, SKIP TO ERROR.	4F14121
RETURN TO ARITHMETIC ROUTINE.	4F14122
* CONVERSION ERROR, GO TO DIAGNOSTIC.	4F14123
RESTORE THE C(XR4), AND	4F14124
* RETURN TO MAIN ROUTINE.	4F14125
	4F14126
CONSTANT USED BY ROYCNV.	4F14127
CONSTANT USED BY ROYCNV.	4F14128
CONSTANT USED BY ROYCNV.	4F14129
CONSTANT USED BY ROYCNV.	4F14130
CONSTANT USED BY ROYCNV.	4F14131
CONSTANT USED BY ROYCNV.	4F14132
	4F14133
48-TABLE USED BY ROYCNV.	4F14134
47-TABLE USED BY ROYCNV.	4F14135
46-TABLE USED BY ROYCNV.	4F14136
45-TABLE USED BY ROYCNV.	4F14137
44-TABLE USED BY ROYCNV.	4F14138
43-TABLE USED BY ROYCNV.	4F14139
42-TABLE USED BY ROYCNV.	4F14140
41-TABLE USED BY ROYCNV.	4F14141
40-TABLE USED BY ROYCNV.	4F14142
39-TABLE USED BY ROYCNV.	4F14143
38-TABLE USED BY ROYCNV.	4F14144
37-TABLE USED BY ROYCNV.	4F14145
36-TABLE USED BY ROYCNV.	4F14146
35-TABLE USED BY ROYCNV.	4F14147
34-TABLE USED BY ROYCNV.	4F14148
33-TABLE USED BY ROYCNV.	4F14149
32-TABLE USED BY ROYCNV.	4F14150
31-TABLE USED BY ROYCNV.	4F14151
30-TABLE USED BY ROYCNV.	4F14152
29-TABLE USED BY ROYCNV.	4F14153
28-TABLE USED BY ROYCNV.	4F14154

04705 +267635456171  
04706 +264512676456  
04707 +261410545213  
04710 +255647410337  
04711 +252522640262  
04712 +247417031702  
04713 +243661534466  
04714 +240532743536  
04715 +235425434430  
04716 +231674055530  
04717 +226543212741  
04720 +223434157116  
04721 +217706576512  
04722 +214553630410  
04723 +211443023471  
04724 +205721522451  
04725 +202564416672  
04726 +177452013710  
04727 +173734654500  
04730 +170575360400  
04731 +165461132000  
04732 +161750220000  
04733 +156606500000  
04734 +153470400000  
04735 +147764000000  
04736 +144620000000  
04737 +141500000000  
04740 +136400000000

TAB

OCT 267635456171  
OCT 264512676456  
OCT 261410545213  
OCT 255647410337  
OCT 252522640262  
OCT 247417031702  
OCT 243661534466  
OCT 240532743536  
OCT 235425434430  
OCT 231674055530  
OCT 226543212741  
OCT 223434157116  
OCT 217706576512  
OCT 214553630410  
OCT 211443023471  
OCT 205721522451  
OCT 202564416672  
OCT 177452013710  
OCT 173734654500  
OCT 170575360400  
OCT 165461132000  
OCT 161750220000  
OCT 156606500000  
OCT 153470400000  
OCT 147764000000  
OCT 144620000000  
OCT 141500000000  
OCT 136400000000

END OF PROGRAM ROYCNV.

\*\*\*\*\*

04741 0 00001 0 01230 SIG1ST PZE SIGMA1+2,,1  
04742 ENDBDR BSS 0

05215 ENDB ORG 2701  
05215 ARGREG BSS 50  
05277 CBAR BSS 1  
05300 ABAR BSS 1  
05301 FSTYPE BSS 1  
05302 FSBITS BSS 1  
05303 FNBITS BSS 1  
05304 FNCTR BSS 1  
05305 ALPHA BSS 139  
05520 LAMBDA BSS 1200

END OF ARITHMETIC / STATE B.

\*\*\*\*\*

ARITHMETIC / STATE C=  
704 FORTRAN MASTER RECORD CARD / STATE C = F0170000.

00000 0 00504 0 03440  
00001 0 00000 0 05043

ORG 0  
PZE ORGC,,DMWR03  
PZE ENDC-1

STATE C. PERFORMS OPTIMIZATION ON LAMBDA TABLE.

27-TABLE USED BY ROYCNV.  
26-TABLE USED BY ROYCNV.  
25-TABLE USED BY ROYCNV.  
24-TABLE USED BY ROYCNV.  
23-TABLE USED BY ROYCNV.  
22-TABLE USED BY ROYCNV.  
21-TABLE USED BY ROYCNV.  
20-TABLE USED BY ROYCNV.  
19-TABLE USED BY ROYCNV.  
18-TABLE USED BY ROYCNV.  
17-TABLE USED BY ROYCNV.  
16-TABLE USED BY ROYCNV.  
15-TABLE USED BY ROYCNV.  
14-TABLE USED BY ROYCNV.  
13-TABLE USED BY ROYCNV.  
12-TABLE USED BY ROYCNV.  
11-TABLE USED BY ROYCNV.  
10-TABLE USED BY ROYCNV.  
09-TABLE USED BY ROYCNV.  
08-TABLE USED BY ROYCNV.  
07-TABLE USED BY ROYCNV.  
06-TABLE USED BY ROYCNV.  
05-TABLE USED BY ROYCNV.  
04-TABLE USED BY ROYCNV.  
03-TABLE USED BY ROYCNV.  
02-TABLE USED BY ROYCNV.  
01-TABLE USED BY ROYCNV.  
00-TABLE USED BY ROYCNV.

4F14155  
4F14156  
4F14157  
4F14158  
4F14159  
4F14160  
4F14161  
4F14162  
4F14163  
4F14164  
4F14165  
4F14166  
4F14167  
4F14168  
4F14169  
4F14170  
4F14171  
4F14172  
4F14173  
4F14174  
4F14175  
4F14176  
4F14177  
4F14178  
4F14179  
4F14180  
4F14181  
4F14182  
4F14183  
4F14184  
4F14185  
4F14186  
4F141865  
4F14187  
4F14188  
4F14189  
4F14190  
4F14191  
4F14192  
4F14193  
4F14194  
4F14195  
4F14196  
4F14197  
4F14198  
4F14199  
4F14200  
4F14201  
4F14202  
4F142021  
4F142022  
4F142023  
4F14203  
4F14204

```

03440 0 56000 0 03440 ORGC ORG 1824
03441 -0 53400 1 01360 R00000 LDQ L(0)
03442 -0 63400 1 03451 LXN NBAR,A
03443 -0 63400 1 03527 SXD R00700,A
03444 -0 63400 1 04101 SXD R05200,A
03445 -0 63400 1 04126 SXD AS0800,A
03446 0 53400 7 01406 LXA L(0),7
03447 -0 60000 2 05044 R00500 STQ BETA,B
03450 1 77777 2 03451 TXI R00700,B,-1
03451 3 00000 2 03447 R00700 TXH R00500,B,0
03452 0 50000 0 01117 CLA 3LBAR
03453 0 62200 0 03464 STO R01700
03454 0 62200 0 03541 STD R06200
03455 0 50000 1 05520 R01000 CLA LAMBOA,A
03456 0 73400 2 00000 PAX 0,B
03457 0 50000 2 05044 CLA BETA,B
03460 0 40000 0 01506 AOD BETA01
03461 0 62200 2 05044 STO BETA,B
03462 0 62100 2 05044 STA BETA,B
03463 1 77775 1 03464 TXI R01700,A,-3
03464 3 00000 1 03455 R01700 TXH R01000,A,0
03465 3 77772 1 03516 R01800 TXH R04200,A,-6
03466 0 50000 1 05515 CLA LAMBDA-3,A
03467 0 73400 2 00000 PAX 0,B
03470 0 50000 2 05044 CLA BETA,B
03471 0 40200 0 01506 SUB BETA01
03472 0 10000 0 03474 TZE R02600
03473 1 00003 1 03465 TXI R01800,A,3
03474 0 56000 1 05516 R02600 LOQ LAMBDA-2,A
03475 -0 76300 0 00006 LGL 6
03476 0 40200 0 01401 SUB 112
03477 -0 10000 0 03501 TNZ R03200
03500 1 00003 1 03465 TXI R01800,A,3
03501 -0 50000 0 01527 R03200 CAL MASK1
03502 0 32000 1 05515 ANS LAMBDA-3,A
03503 0 50000 1 05512 CLA LAMBDA-6,A
03504 -0 50100 1 05515 ORA LAMBDA-3,A
03505 0 60200 1 05512 SLW LAMBOA-6,A
03506 -0 50000 1 05516 CAL LAMBDA-2,A
03507 -0 32000 0 01470 ANA MASK5
03510 -0 60200 1 05513 ORS LAMBOA-5,A
03511 -0 50000 1 05517 CAL LAMBDA-1,A
03512 0 60200 1 05514 SLW LAMBDA-4,A
03513 0 60000 2 05044 STZ BETA,B
03514 0 60000 1 05515 STZ LAMBDA-3,A
03515 1 00003 1 03465 TXI R01800,A,3
03516 0 60000 0 01347 R04200 STZ G
03517 0 53400 7 01406 LXA L(0),7
03520 0 50000 2 05044 R04500 CLA BETA,B
03521 0 10000 0 03526 TZE R05100
03522 0 56000 0 01347 LDQ G
03523 -0 62000 2 05044 SLQ BETA,B

```

```

CLEAR MQ
LDXA WITH -N

```

```
CLEAR XA,XB,XC,
```

```
AOD INTO GAMMA COUNTERS
```

```
(-3)*2**18+(-3)
```

```

-3L IN XA AT END
EXIT FROM SINGLE ELEMENT REDUCTION

```

```

SINGLE ELEMENT
EXAMINE OPERATION

```

```

SINGLE ELEMENT, NON-UNARY OP
EXTRACT TAGS AND STORE BACK

```

```
EXTRACT FS BITS AND STORE BACK
```

```
STORE BACK SYMBOL
```

```

REDUCE GAMMA COUNT TO 0
CLEAR TAG WORD
RESUME SCAN-BACK

```

```

CLEAR XA,XB,XC
SET ORIGINS OF SCRIPL TABLE

```

```

4F14205
4F14206
4F14207
4F14208
4F14209
4F14210
4F14211
4F14212
4F14213
4F14214
4F14215
4F14216
4F14217
4F14218
4F14219
4F14220
4F14221
4F14222
4F14223
4F14224
4F14225
4F14226
4F14227
4F14228
4F14229
4F14230
4F14231
4F14232
4F14233
4F14234
4F14235
4F14236
4F14237
4F14238
4F14239
4F14240
4F14241
4F14242
4F14243
4F14244
4F14245
4F14246
4F14247
4F14248
4F14249
4F14250
4F14251
4F14252
4F14253
4F14254
4F14255
4F14256
4F14257
4F14258

```

03524	0	40000	0	01347	ADD	G
03525	0	62200	0	01347	STD	G
03526	1	77777	2	03527	R05100	TXI R05200,B,-1
03527	3	00000	2	03520	R05200	TXH R04500,B,0
03530	-0	50000	1	05520	R05300	CAL LAMBDA,A
03531	0	10000	0	03540	TZE	R06100
03532	0	60200	4	05520	SLW	LAMBDA,C
03533	0	50000	1	05521	CLA	LAMBDA+1,A
03534	0	60100	4	05521	STO	LAMBDA+1,C
03535	0	50000	1	05522	CLA	LAMBDA+2,A
03536	0	60100	4	05522	STO	LAMBDA+2,C
03537	1	77775	4	03540	TXI	R06100,C,-3
03540	1	77775	1	03541	R06100	TXI R06200,A,-3
03541	3	00000	1	03530	R06200	TXH R05300,A,0
03542	-0	63400	4	03563	SXD	R07800,C
03543	-0	63400	4	03707	SXD	CS0760,C
03544	0	53400	1	01406	LXA	L(0),A
03545	0	50000	1	05520	R06400	CLA LAMBDA,A
03546	0	73400	2	00000	PAX	0,B
03547	0	50000	2	05044	CLA	BETA,B
03550	-0	73400	4	00000	PDX	0,C
03551	0	50000	1	05520	CLA	LAMBDA,A
03552	0	60100	4	06650	STO	SCRIPL,C
03553	0	50000	1	05521	CLA	LAMBDA+1,A
03554	0	60100	4	06651	STO	SCRIPL+1,C
03555	0	50000	1	05522	CLA	LAMBDA+2,A
03556	0	60100	4	06652	STO	SCRIPL+2,C
03557	1	77775	4	03560	TXI	R07500,C,-3
03560	-0	75400	4	00000	R07500	PXD 0,C
03561	0	62200	2	05044	STD	BETA,B
03562	1	77775	1	03563	TXI	R07800,A,-3
03563	3	00000	1	03545	R07800	TXH R06400,A,0
03564	0	56000	0	01406	CS0000	LDQ L(0)
03565	-0	50000	1	06645	CS0010	CAL SCRIPL-3,A
03566	0	10000	0	03575	TZE	CS0080
03567	0	73400	2	00000	CS0030	PAX 0,B
03570	-3	00000	2	03675	TXL	CS0660,B,0
03571	0	62100	0	03567	STA	CS0030
03572	0	50000	2	05044	CLA	BETA,B
03573	0	73400	4	00000	CS0060	PAX 0,C
03574	-3	77772	4	03576	TXL	CS0090,C,-6
03575	1	00003	1	03565	CS0080	TXI CS0010,A,3
03576	-0	63400	1	03651	CS0090	SXD CS0470,A
03577	-0	63400	4	01357	SXD	LENGTH,C
03600	-3	00000	4	03603	CS0100	TXL CS0130,C,0
03601	1	00003	1	03602	TXI	CS0120,A,3
03602	1	00003	4	03600	CS0120	TXI CS0100,C,3
03603	-0	50000	1	06645	CS0130	CAL SCRIPL-3,A
03604	-0	10000	0	03606	TNZ	CS0151
03605	1	00003	1	03603	TXI	CS0130,A,3
03606	0	73400	2	00000	CS0151	PAX 0,B
03607	-3	00000	2	03670	TXL	CS0610,B,0
03610	0	62100	0	03573	STA	CS0060
03611	0	50000	2	05044	CLA	BETA,B

DEC(K)=DEC(ACC)=-3P AT END  
STRING BEADS... COMPRESS LAMBDA TABLE

-3P IN XC AT END

STORE ORDERED, REDUCED LAMBDA TABLE  
IN SCRIPL TABLE

-3P IN XA AT END  
ELIMINATE COMMON SEGMENTS

ERASED SEGMENT - CONTINUE BACK-SCAN

EXIT FROM CS ROUTINE

AT LEAST TWO ELEMENTS  
ONE ELEMENT OR ERASED SEGMENT  
SAVE XA  
SAVE XC, CONTAINING LENGTH OF SEGMENT  
SEARCH UP FOR MATCHING SEGMENT

ERASED SEGMENT

GO ON TO NEXT SEGMENT

4F14259  
4F14260  
4F14261  
4F14262  
4F14263  
4F14264  
4F14265  
4F14266  
4F14267  
4F14268  
4F14269  
4F14270  
4F14271  
4F14272  
4F14273  
4F14274  
4F14275  
4F14276  
4F14277  
4F14278  
4F14279  
4F14280  
4F14281  
4F14282  
4F14283  
4F14284  
4F14285  
4F14286  
4F14287  
4F14288  
4F14289  
4F14290  
4F14291  
4F14292  
4F14293  
4F14294  
4F14295  
4F14296  
4F14297  
4F14298  
4F14299  
4F14300  
4F14301  
4F14302  
4F14303  
4F14304  
4F14305  
4F14306  
4F14307  
4F14308  
4F14309  
4F14310  
4F14311  
4F14312

03612	0	73400	4	00000	PAX	0,C	4F14313
03613	-0	75400	4	00000	PXD	0,C	4F14314
03614	0	40200	0	01357	SUB	LENGTH	4F14315
03615	-0	10000	0	03600	TNZ	CS0100	4F14316
03616	-0	53400	2	03651	LXD	CS0470,B	4F14317
03617	-0	63400	1	03667	SXD	CS0600,A	4F14318
03620	-3	00000	4	03645	CS0250 TXL	CS0430,C,0	4F14319
03621	0	50000	2	06647	CLA	SCRIPL-1,B	4F14320
03622	0	40200	1	06647	SUB	SCRIPL-1,A	4F14321
03623	-0	10000	0	03600	TNZ	CS0100	4F14322
03624	-0	50000	2	06645	CAL	SCRIPL-3,B	4F14323
03625	-0	32000	0	01527	ANA	MASK1	4F14324
03626	0	60200	0	01347	SLW	G	4F14325
03627	-0	50000	1	06645	CAL	SCRIPL-3,A	4F14326
03630	-0	32000	0	01527	ANA	MASK1	4F14327
03631	0	76000	0	00006	COM		4F14328
03632	0	36100	0	01347	ACL	G	4F14329
03633	0	76000	0	00006	COM		4F14330
03634	-0	10000	0	03600	TNZ	CS0100	4F14331
03635	0	50000	2	06646	CLA	SCRIPL-2,B	4F14332
03636	0	77100	0	00006	ARS	6	4F14333
03637	0	76700	0	00006	ALS	6	4F14334
03640	0	40200	1	06646	SUB	SCRIPL-2,A	4F14335
03641	-0	10000	0	03600	TNZ	CS0100	4F14336
03642	1	00003	1	03643	TXI	CS0360,A,3	4F14337
03643	1	00003	2	03644	CS0360 TXI	CS0370,B,3	4F14338
03644	1	00003	4	03620	CS0370 TXI	CS0250,C,3	4F14339
03645	-0	50000	1	06650	CS0430 CAL	SCRIPL,A	4F14340
03646	-0	32000	0	01452	ANA	MASK2	4F14341
03647	0	34000	1	06647	CS0450 CAS	SCRIPL-1,A	4F14342
03650	1	00003	1	03647	TXI	CS0450,A,3	4F14343
03651	1	00000	0	03653	CS0470 TXI	CS0490,0,0	4F14344
03652	1	00003	1	03647	TXI	CS0450,A,3	4F14345
03653	0	50000	0	03567	CS0490 CLA	CS0030	4F14346
03654	0	62100	1	06647	STA	SCRIPL-1,A	4F14347
03655	-0	53400	4	01357	LXD	LENGTH,C	4F14348
03656	-0	53400	1	03667	LXD	CS0600,A	4F14349
03657	-3	00000	4	03663	CS0530 TXL	CS0570,C,0	4F14350
03660	-0	60000	1	06645	STQ	SCRIPL-3,A	4F14351
03661	1	00003	1	03662	TXI	CS0560,A,3	4F14352
03662	1	00003	4	03657	CS0560 TXI	CS0530,C,3	4F14353
03663	0	53400	4	03573	CS0570 LXA	CS0060,C	4F14354
03664	-0	60000	4	05044	STQ	BETA,C	4F14355
03665	-0	50000	0	01401	CAL	11Z	4F14356
03666	-0	60200	2	06651	ORS	SCRIPL+1,B	4F14357
03667	1	00000	0	03603	CS0600 TXI	CS0130,0,0	4F14358
03670	-0	53400	1	03651	CS0610 LXD	CS0470,A	4F14359
03671	-0	53400	4	01357	LXD	LENGTH,C	4F14360
03672	-3	00000	4	03565	CS0630 TXL	CS0010,C,0	4F14361
03673	1	00003	1	03674	TXI	CS0650,A,3	4F14362
03674	1	00003	4	03672	CS0650 TXI	CS0630,C,3	4F14363
03675	0	53400	5	01406	CS0660 LXA	L(0),5	4F14364
03676	-0	50000	1	06650	CS0670 CAL	SCRIPL,A	4F14365
03677	0	10000	0	03706	TZE	CS0750	4F14366

NOT SAME LENGTH SEGMENT-CONTINUE SEARCH  
SAME LENGTH SEGMENT

MATCHING SEGMENTS

SYMBOLS MATCH

TAGS MATCH

OPS MATCH

MATCHING SEGMENTS  
SEARCH FOR REFERENCES

CHANGE REFERENCE

ERASE DUPLICATE SEGMENT

STORE CS BIT

STRING BEADS... COMPRESS SCRIPL TABLE



```

03700 0 60200 4 06650 SLW SCRIPL,C
03701 0 50000 1 06651 CLA SCRIPL+1,A
03702 0 60100 4 06651 STO SCRIPL+1,C
03703 0 50000 1 06652 CLA SCRIPL+2,A
03704 0 60100 4 06652 STO SCRIPL+2,C
03705 1 77775 4 03706 TXI CS0750,C,-3
03706 1 77775 1 03707 CS0750 TXI CS0760,A,-3
03707 3 00000 1 03676 CS0760 TXH CS0670,A,0
03710 -0 63400 4 03724 SXD PM0080,C
03711 -0 63400 4 04113 SXD AS1800,C
03712 -0 63400 4 04136 SXD AS3600,C
03713 0 76000 0 00140 PM0000 SLF
03714 0 53400 1 01406 LXA L(0),A
03715 0 50000 1 06650 PM0010 CLA SCRIPL,A
03716 0 73400 2 00000 PAX 0,B
03717 0 50000 2 05044 CLA BETA,B
03720 0 73400 4 00000 PAX 0,C
03721 -0 63400 4 03723 SXD PM0070,C
03722 -3 77767 4 03726 TXL PM0100,C,-9
03723 1 00000 1 03724 PM0070 TXI PM0080,A,0
03724 -3 00000 1 04071 PM0080 TXL AS0000,A,0
03725 0 02000 0 03715 TRA PM0010
03726 0 56000 1 06651 PM0100 LDQ SCRIPL+1,A
03727 -0 75400 0 00000 PXD 0,0
03730 -0 76300 0 00006 LGL 6
03731 0 40200 0 01405 SUB STAR
03732 -0 10000 0 03723 TNZ PM0070
03733 0 16200 0 03735 TQP PM0170
03734 0 02000 0 03723 TRA PM0070
03735 -0 63400 4 03744 PM0170 SXD PM0260,C
03736 -0 63400 4 03762 SXD PM0400,C
03737 -0 63400 4 04013 SXD PM0680,C
03740 0 53400 4 01406 LXA L(0),C
03741 1 77775 1 03742 TXI PM0240,A,-3
03742 0 76000 0 00143 PM0240 SLN 3
03743 1 77775 4 03744 PM0250 TXI PM0260,C,-3
03744 -3 00000 4 04025 PM0260 TXL PM0790,C,0
03745 -0 63400 4 03755 SXD PM0340,C
03746 -0 53400 2 03747 LXD PM0290,B
03747 1 00000 3 03750 PM0290 TXI PM0300,3,0
03750 -0 75400 0 00000 PM0300 PXD 0,0
03751 0 56000 1 06651 LDQ SCRIPL+1,A
03752 -0 76300 0 00006 LGL 6
03753 0 34000 0 01402 CAS SLASH
03754 0 00007 0 00000 FEXUB HTR 0,0,7
03755 -3 00000 0 04007 PM0340 TXL PM0640,0,0
03756 -0 76000 0 00143 SLT 3
03757 1 77775 1 03742 TXI PM0240,A,-3
03760 1 77775 2 03761 TXI PM0390,8,-3
03761 1 77775 4 03762 PM0390 TXI PM0400,C,-3
03762 -3 00000 4 04023 PM0400 TXL PM0770,C,0
03763 -0 75400 0 00000 PXD 0,0
03764 0 56000 2 06651 LDQ SCRIPL+1,B
03765 -0 76300 0 00006 LGL 6

```

-3Q IN XC AT END

TURN OFF ALL SENSE LITES  
PERMUTE \* AND /

LDXC WITH SEGMENT LENGTH

LENGTH LESS THAN 3 OR OD NOT = TO \*  
EXIT FROM PERMUTATION ROUTINE

SEGMENT LENGTH AT LEAST = TO 3

LDXC WITH 0

TURN \* LITE ON

EXIT

XA TO XA AND XB

/ SIGN

\* SIGN... IS \* LITE ON

NO

YES - SEARCH FOR / SIGN

EXIT

```

4F14367
4F14368
4F14369
4F14370
4F14371
4F14372
4F14373
4F14374
4F14375
4F14376
4F14377
4F14378
4F14379
4F14380
4F14381
4F14382
4F14383
4F14384
4F14385
4F14386
4F14387
4F14388
4F14389
4F14390
4F14391
4F14392
4F14393
4F14394
4F14395
4F14396
4F14397
4F14398
4F14399
4F14400
4F14401
4F14402
4F14403
4F14404
4F14405
4F14406
4F14407
4F14408
4F14409
4F14410
4F14411
4F14412
4F14413
4F14414
4F14415
4F14416
4F14417
4F14418
4F14419
4F14420

```

03766	0	40200	0	01402	SUB SLASH
03767	0	10000	0	03771	TZE PM0480
03770	1	77775	2	03761	TXI PM0390,B,-3
03771	0	50000	1	06650	CLA SCRIPL,A
03772	0	56000	2	06650	LDQ SCRIPL,B
03773	-0	60000	1	06650	STQ SCRIPL,A
03774	0	60100	2	06650	STO SCRIPL,B
03775	0	50000	1	06651	CLA SCRIPL+1,A
03776	0	56000	2	06651	LDQ SCRIPL+1,B
03777	-0	60000	1	06651	STQ SCRIPL+1,A
04000	0	60100	2	06651	STO SCRIPL+1,B
04001	0	50000	1	06652	CLA SCRIPL+2,A
04002	0	56000	2	06652	LDQ SCRIPL+2,B
04003	-0	60000	1	06652	STQ SCRIPL+2,A
04004	0	60100	2	06652	STO SCRIPL+2,B
04005	-0	53400	4	03755	LXD PM0340,C
04006	1	77775	1	03743	TXI PM0250,A,-3
04007	-0	76000	0	00143	PM0640 SLT 3
04010	1	77775	2	04012	PM0650 TXI PM0670,B,-3
04011	1	77775	1	03743	TXI PM0250,A,-3
04012	1	77775	4	04013	PM0670 TXI PM0680,C,-3
04013	-3	00000	4	04023	PM0680 TXL PM0770,C,0
04014	-0	75400	0	00000	PXD 0,0
04015	0	56000	2	06651	LDQ SCRIPL+1,B
04016	-0	76300	0	00006	LGL 6
04017	0	40200	0	01402	SUB SLASH
04020	0	10000	0	04010	TZE PM0650
04021	0	76000	0	00143	SLN 3
04022	0	02000	0	03771	TRA PM0480
04023	-0	53400	1	04024	PM0770 LXD PM0780,A
04024	1	00000	3	04025	PM0780 TXI PM0790,3,0
04025	-0	75400	0	00000	PM0790 PXD 0,0
04026	0	56000	1	06646	LDQ SCRIPL-2,A
04027	-0	76300	0	00006	LGL 6
04030	0	40200	0	01402	SUB SLASH
04031	0	10000	0	03724	TZE PM0080
04032	-0	75400	0	00000	PXD 0,0
04033	0	56000	1	06643	LDQ SCRIPL-5,A
04034	-0	76300	0	00006	LGL 6
04035	0	40200	0	01402	SUB SLASH
04036	0	10000	0	03724	TZE PM0080
04037	0	50000	1	06645	CLA SCRIPL-3,A
04040	0	60100	0	01126	STO E
04041	0	50000	1	06646	CLA SCRIPL-2,A
04042	0	60100	0	01127	STO E+1
04043	0	50000	1	06647	CLA SCRIPL-1,A
04044	0	60100	0	01130	STO E+2
04045	1	00003	1	04046	TXI PM0980,A,3
04046	1	00003	4	04047	PM0980 TXI PM0990,C,3
04047	-3	00000	4	04057	PM0990 TXL PM1070,C,0
04050	0	50000	1	06645	CLA SCRIPL-3,A
04051	0	60100	1	06650	STO SCRIPL,A
04052	0	50000	1	06646	CLA SCRIPL-2,A
04053	0	60100	1	06651	STO SCRIPL+1,A

PERMUTE TAG WORDS

PERMUTE OP WORDS

PERMUTE SYMBOL WORDS

RESUME SEGMENT SCAN  
/ SIGN... IS \* LITE ON  
NO

TORN \* LITE ON

XB TO XA,XB

... / - EXIT FROM SEGMENT SCAN

... / \* - EXIT FROM SEGMENT SCAN  
... \*\*

FINIS

4F14421  
4F14422  
4F14423  
4F14424  
4F14425  
4F14426  
4F14427  
4F14428  
4F14429  
4F14430  
4F14431  
4F14432  
4F14433  
4F14434  
4F14435  
4F14436  
4F14437  
4F14438  
4F14439  
4F14440  
4F14441  
4F14442  
4F14443  
4F14444  
4F14445  
4F14446  
4F14447  
4F14448  
4F14449  
4F14450  
4F14451  
4F14452  
4F14453  
4F14454  
4F14455  
4F14456  
4F14457  
4F14458  
4F14459  
4F14460  
4F14461  
4F14462  
4F14463  
4F14464  
4F14465  
4F14466  
4F14467  
4F14468  
4F14469  
4F14470  
4F14471  
4F14472  
4F14473  
4F14474

04054	0	50000	1	06647	CLA	SCRIPL-1,A
04055	0	60100	1	06652	STO	SCRIPL+2,A
04056	1	00003	1	04046	TXI	PM0980,A,3
04057	0	50000	0	01126	CLA	E
04060	0	60100	1	06650	STO	SCRIPL,A
04061	0	50000	0	01127	CLA	E+1
04062	0	60100	1	06651	STO	SCRIPL+1,A
04063	0	50000	0	01130	CLA	E+2
04064	0	60100	1	06652	STO	SCRIPL+2,A
04065	-0	50000	1	06654	CAL	SCRIPL+4,A
04066	-0	32000	0	01401	ANA	11Z
04067	-0	60200	1	06651	ORS	SCRIPL+1,A
04070	0	02000	0	03723	TRA	PM0070
04071	0	53400	7	01406	LXA	L(0),7
04072	0	50000	2	05044	CLA	BETA,B
04073	0	10000	0	04100	TZE	AS0700
04074	-0	75400	4	00000	PXD	0,C
04075	0	77100	0	00022	ARS	18
04076	0	62100	2	05044	STA	BETA,B
04077	1	77777	4	04100	TXI	AS0700,C,-1
04100	1	77777	2	04101	TXI	AS0800,B,-1
04101	3	00000	2	04072	TXH	AS0100,B,0
04102	0	50000	1	06650	CLA	SCRIPL,A
04103	0	73400	2	00000	PAX	0,B
04104	0	50000	2	05044	CLA	BETA,B
04105	0	62100	1	06650	STA	SCRIPL,A
04106	0	56000	1	06652	LDQ	SCRIPL+2,A
04107	-0	76300	0	00001	LGL	1
04110	0	76000	0	00001	LBT	
04111	0	16200	0	04115	TQP	AS2000
04112	1	77775	1	04113	TXI	AS1800,A,-3
04113	3	00000	1	04102	TXH	AS0900,A,0
04114	0	02000	0	04122	TRA	AS2500
04115	-0	76300	0	00043	LGL	35
04116	0	73400	2	00000	PAX	0,B
04117	0	50000	2	05044	CLA	BETA,B
04120	0	62100	1	06652	STA	SCRIPL+2,A
04121	1	77775	1	04113	TXI	AS1800,A,-3
04122	0	53400	3	01406	LXA	L(0),3
04123	0	56000	0	01406	LDQ	L(0)
04124	-0	60000	2	05044	STQ	BETA,B
04125	1	77777	2	04126	TXI	AS2900,B,-1
04126	3	00000	2	04124	TXH	AS2700,B,0
04127	0	50000	1	06650	CLA	SCRIPL,A
04130	0	73400	2	00000	PAX	0,B
04131	0	50000	2	05044	CLA	BETA,B
04132	0	40000	0	01462	ADD	BETAD2
04133	0	62200	2	05044	STD	BETA,B
04134	0	62100	2	05044	STA	BETA,B
04135	1	77775	1	04136	TXI	AS3600,A,-3
04136	3	00000	1	04127	TXH	AS3000,A,0
04137	-0	63400	1	01117	SXD	3QBAR,A
04140	-0	50000	1	06645	CAL	SCRIPL-3,A
04141	0	73400	2	00000	PAX	0,B

PRESERVE CS BIT

RENUMBER SEGMENT OF SCRIPL

LDXA,XB WITH 0  
CLEAR MQ  
RECLEAR BETA TABLE

ADD INTO GAMMA COUNTERS

3\*2\*\*18+(-3)

-3Q IN XA AT END  
-3Q TO 3QBAR = 3LBAR  
ELIMINATE COMMON SUBEXPRESSIONS  
LOAD XB WITH S(I)

4F14475  
4F14476  
4F14477  
4F14478  
4F14479  
4F14480  
4F14481  
4F14482  
4F14483  
4F14484  
4F14485  
4F14486  
4F14487  
4F14488  
4F14489  
4F14490  
4F14491  
4F14492  
4F14493  
4F14494  
4F14495  
4F14496  
4F14497  
4F14498  
4F14499  
4F14500  
4F14501  
4F14502  
4F14503  
4F14504  
4F14505  
4F14506  
4F14507  
4F14508  
4F14509  
4F14510  
4F14511  
4F14512  
4F14513  
4F14514  
4F14515  
4F14516  
4F14517  
4F14518  
4F14519  
4F14520  
4F14521  
4F14522  
4F14523  
4F14524  
4F14525  
4F14526  
4F14527  
4F14528

04142	-3	00000	2	04167	TXL	CCS240,B,0
04143	-0	50000	2	05044	CAL	BETA,B
04144	0	62200	0	04145	STD	CCS060
04145	1	00000	1	04146	CCS060	TXI CCS070,A,0
04146	-0	50000	1	06651	CCS070	CAL SCRIPL+1,A
04147	-0	32000	0	01401	ANA	11Z
04150	0	10000	0	04140	TZE	CCS000
04151	-0	75400	2	00000	PXD	0,B
04152	0	77100	0	00022	ARS	18
04153	0	53400	4	01406	LXA	L(0),C
04154	-0	53400	2	04155	LXD	CCS140,B
04155	1	00000	3	04156	CCS140	TXI CCS150,3,0
04156	-3	00000	2	04163	CCS150	TXL CCS200,B,0
04157	0	34000	2	06647	CAS	SCRIPL-1,B
04160	1	00003	2	04156	TXI	CCS150,B,3
04161	1	00001	4	04162	TXI	CCS190,C,1
04162	1	00003	2	04156	CCS190	TXI CCS150,B,3
04163	3	00001	4	04140	CCS200	TXH CCS000,C,1
04164	-0	50000	0	01530	CAL	MASK4
04165	0	32000	1	06651	ANS	SCRIPL+1,A
04166	0	02000	0	04140	TRA	CCS000
04167	-0	53400	1	04136	CCS240	LXD AS3600,A
04170	-3	00000	1	04423	PL0000	TXL LK0000,A,0
04171	0	50000	1	06645	CLA	SCRIPL-3,A
04172	0	73400	2	00000	PAX	0,B
04173	-0	50000	2	05044	CAL	BETA,B
04174	0	73400	4	00000	PAX	0,C
04175	0	62200	0	04176	STD	PL0060
04176	1	00000	1	04177	PL0060	TXI PL0070,A,0
04177	-0	75400	0	00000	PL0070	PXD 0,0
04200	0	56000	1	06651	LDQ	SCRIPL+1,A
04201	-0	76300	0	00006	LGL	6
04202	0	34000	0	01427	CAS	SPECOP
04203	0	02000	0	04300	TRA	PL0680
04204	0	02000	0	04242	TRA	PL0460
04205	-0	75400	0	00000	PL0130	PXD 0,0
04206	0	56000	1	06652	LDQ	SCRIPL+2,A
04207	-0	76300	0	00001	LGL	1
04210	0	76000	0	00001	LBT	
04211	0	16200	0	04223	TQP	PL0300
04212	-0	76300	0	00005	LGL	5
04213	0	34000	0	01423	PL0135	CAS L(H)
04214	0	34000	0	01425	CAS	L(0)
04215	0	02000	0	04220	TRA	PL0240
04216	0	02000	0	04220	TRA	PL0240
04217	0	02000	0	04170	TRA	PL0000
04220	-0	50000	0	01416	PL0240	CAL L(8)
04221	-0	60200	1	06651	PL0250	ORS SCRIPL+1,A
04222	1	00000	0	04170	PL0260	TXI PL0000,0,0
04223	-0	53400	2	04224	PL0300	LXD PL0310,B
04224	1	00000	3	04225	PL0310	TXI PL0320,3,0
04225	-0	63400	4	04226	PL0320	SXD PL0330,C
04226	1	00000	2	04227	PL0330	TXI PL0340,B,0
04227	-0	50000	2	06650	PL0340	CAL SCRIPL,B

EXIT AT S(I)  
 OBTAIN LENGTH OF S(I)  
 AND BACK UP TO  
 BEGINNING OF CURRENT SEGMENT  
 OBTAIN OP1 (S(I))  
 EXTRACT CS-BIT  
 CONTINUE TO S(I-1)  
  
 TO S(I)  
 AND KEEP COUNT OF SAME  
 XA TO XA,XB  
 SEARCH-UP FINISHED. EXAMINE COUNT

CONTINUE SEARCH  
 RAISE REF COUNTER AND  
 CONTINUE SEARCH  
 MULTIPLE REFERENCE  
 SINGLE REFERENCE - SO SET  
 OP1(S(I))30 TO 0, AND  
 CONTINUE FOR S(I-1)  
 -3Q TO XA  
 GO TO LINKAGE

SET XA TO BEGINNING OF S(I)

OBTAIN  
 AND  
 EXAMINE OP1 (S(I))

OP1 (S(I)) IS +, - OR \*  
 OBTAIN  
 AND  
 EXAMINE SYM1 (S(I))

EX (INTERNAL VARIABLE  
 IS SYM1 (S(I)) FIX OR FLO PT

FLO PT... SET OP1 (S(I)) 32 = 1  
 FLO PT... DITTO  
 FIX PT... OP1 (S(I)) 32 = 0  
 SET OP1 (S(I)) 32 = 1

CONTINUE SCAN  
 SYM1 (S(I)) = SOME S(J)  
 XA TO XA,XB

4F14529  
 4F14530  
 4F14531  
 4F14532  
 4F14533  
 4F14534  
 4F14535  
 4F14536  
 4F14537  
 4F14538  
 4F14539  
 4F14540  
 4F14541  
 4F14542  
 4F14543  
 4F14544  
 4F14545  
 4F14546  
 4F14547  
 4F14548  
 4F14549  
 4F14550  
 4F14551  
 4F14552  
 4F14553  
 4F14554  
 4F14555  
 4F14556  
 4F14557  
 4F14558  
 4F14559  
 4F14560  
 4F14561  
 4F14562  
 4F14563  
 4F14564  
 4F14565  
 4F14566  
 4F14567  
 4F14568  
 4F14569  
 4F14570  
 4F14571  
 4F14572  
 4F14573  
 4F14574  
 4F14575  
 4F14576  
 4F14577  
 4F14578  
 4F14579  
 4F14580  
 4F14581  
 4F14582

04230	0	73400	4	00000		PAX 0,C
04231	-0	32000	0	01452		ANA MASK2
04232	0	40200	1	06652		SUB SCRIPL+2,A
04233	0	10000	0	04237		TZE PL0420
04234	0	50000	4	05044		CLA BETA,C
04235	0	73400	4	00000		PAX 0,C
04236	0	02000	0	04225		TRA PL0320
04237	-0	50000	2	06651	PL0420	CAL SCRIPL+1,B
04240	-0	32000	0	01416		ANA L(8)
04241	0	02000	0	04221		TRA PL0250
04242	-0	76300	0	00007	PL0460	LGL 7
04243	0	16200	0	04252		TQP PL0465
04244	0	56000	1	06652	PL0461	LDQ SCRIPL+2,A
04245	-0	75400	0	00000		PXD 0,0
04246	-0	76300	0	00006		LGL 6
04247	0	40200	0	01433		SUB L(X)
04250	-0	10000	0	04220		TNZ PL0240
04251	0	02000	0	04170		TRA PL0000
04252	0	76000	0	00001	PL0465	LBT
04253	0	02000	0	04260		TRA PL0470
04254	0	56000	1	06652		LDQ SCRIPL+2,A
04255	-0	75400	0	00000		PXD ,0
04256	-0	76300	0	00006		LGL 6
04257	0	02000	0	04213		TRA PL0135
04260	0	50000	1	06652	PL0470	CLA SCRIPL+2,A
04261	0	53400	2	01406		LXA L(0),B
04262	0	34000	2	04732	PL0480	CAS OPSUB,B
04263	1	77777	2	04266		TXI PL0520,B,-1
04264	0	02000	0	04275		TRA PL0650
04265	1	77777	2	04266		TXI PL0520,B,-1
04266	3	77754	2	04262	PL0520	TXH PL0480,B,-20
04267	0	60100	0	01347		STO G
04270	-0	63400	1	04222		SXD PL0260,A
04271	0	07400	1	03321		TSX TET00,A
04272	0	00000	0	00011		HTR 9
04273	-0	53400	1	04222		LXD PL0260,A
04274	0	02000	0	04244		TRA PL0461
04275	-0	50000	0	01412	PL0650	CAL L(4)
04276	-0	60200	1	06651		ORS SCRIPL+1,A
04277	0	02000	0	04244		TRA PL0461
04300	0	16200	0	04205	PL0680	TQP PL0130
04301	-0	75400	0	00000		PXD 0,0
04302	0	56000	1	06652		LDQ SCRIPL+2,A
04303	-0	76300	0	00001		LGL 1
04304	0	76000	0	00001		LBT
04305	0	16200	0	04363		TQP PL1000
04306	-0	76300	0	00005		LGL 5
04307	0	34000	0	01423		CAS L(H)
04310	0	34000	0	01425		CAS L(O)
04311	0	02000	0	04314		TRA PL0800
04312	0	02000	0	04314		TRA PL0800
04313	0	02000	0	04316		TRA PL0830
04314	-0	50000	0	01416	PL0800	CAL L(8)
04315	-0	60200	1	06651	PL0820	ORS SCRIPL+1,A

```

SYM1(S(I)) = S(J)
EXTRACT OP1 (S(J)) 32 AND GO
SET OP1 (S(I)) 32 = OP1 (S(J)) 32
OP1 (S(I)) IS SPOP

```

```

FS NAME -
EXAMINE SUM1 (S(I)) S,1-5

```

```

FLO PT... GO SET OP1 (S(I)) 32 = 1
FIX PT ... OP1 (S(I)) 32 = 0

```

NOT AN FS NAME

```

SET OP1 (S(I)) 33 =1

```

```

OP1 (S(I)) IS **
OBTAIN AND
EXAMINE
SYM1 (S(I))

```

```

EX (IN)TERNAL VARIABLE
IS OT FIX OR FLO PT

```

```

FIX PT
FLO PT... SET OP1 (S(I)) 32 = 1

```

4F14583  
4F14584  
4F14585  
4F14586  
4F14587  
4F14588  
4F14589  
4F14590  
4F14591  
4F14592  
4F14593  
4F14594  
4F14595  
4F14596  
4F14597  
4F14598  
4F14599  
4F14600  
4F14601  
4F14602  
4F14603  
4F14604  
4F14605  
4F14606  
4F14607  
4F14608  
4F14609  
4F14610  
4F14611  
4F14612  
4F14613  
4F14614  
4F14615  
4F14616  
4F14617  
4F14618  
4F14619  
4F14620  
4F14621  
4F14622  
4F14623  
4F14624  
4F14625  
4F14626  
4F14627  
4F14628  
4F14629  
4F14630  
4F14631  
4F14632  
4F14633  
4F14634  
4F14635  
4F14636

04316	-0	75400	0	00000	PL0830	PXD 0,0
04317	0	56000	1	06655		LDQ SCRIP+5,A
04320	-0	76300	0	00001		LGL 1
04321	0	76000	0	00001		LBT
04322	0	16200	0	04402		TQP PL1200
04323	-0	76300	0	00005		LGL 5
04324	0	34000	0	01423		CAS L(H)
04325	0	34000	0	01425		CAS L(O)
04326	0	02000	0	04360		TRA PL0940
04327	0	02000	0	04360		TRA PL0940
04330	-0	75400	0	00000	PL0850	PXD 0,0
04331	-0	76300	0	00006		LGL 6
04332	0	40200	0	01375		SUB OPEN
04333	-0	10000	0	04170		TNZ PL0000
04334	-0	76300	0	00031		LGL 25
04335	0	40000	0	04352		ADD PL0880
04336	0	62100	0	04330		STA PL0850
04337	0	76200	0	00302		RDR FXCDOR
04340	0	46000	0	04330		LDA PL0850
04341	0	70000	0	01347		CPY G
04342	0	70000	0	01350		CPY G+1
04343	0	50000	0	01347		CLA G
04344	0	34000	0	01350		CAS G+1
04345	0	02000	0	04347		TRA **2
04346	0	02000	0	04350		TRA PL1570
04347	0	07400	4	03400		TSX DIAG,4
04350	0	10000	0	04170	PL1570	TZE PL0000
04351	0	34000	0	03754		CAS FEXUB
04352	3	00000	0	00002	PL0880	TXH FIXCON,0,0
04353	0	02000	0	04170		TRA PL0000
04354	0	60100	1	06655		STO SCRIP+5,A
04355	-0	50000	0	01412		CAL L(4)
04356	-0	60200	1	06651		ORS SCRIP+1,A
04357	0	02000	0	04170		TRA PL0000
04360	-0	50000	0	01416	PL0940	CAL L(8)
04361	-0	60200	1	06654		ORS SCRIP+4,A
04362	0	02000	0	04170		TRA PL0000
04363	-0	53400	2	04364	PL1000	LXD PL1010,B
04364	1	00000	3	04365	PL1010	TXI PL1020,3,0
04365	-0	63400	4	04366	PL1020	SXD PL1030,C
04366	1	00000	2	04367	PL1030	TXI PL1040,B,0
04367	-0	50000	2	06650	PL1040	CAL SCRIP,B
04370	0	73400	4	00000		PAX 0,C
04371	-0	32000	0	01452		ANA MASK2
04372	0	40200	1	06652		SUB SCRIP+2,A
04373	0	10600	0	04377		TZE PL1130
04374	0	50000	4	05044		CLA BETA,C
04375	0	73400	4	00000		PAX 0,C
04376	0	02000	0	04365		TRA PL1020
04377	-0	50000	2	06651	PL1130	CAL SCRIP+1,B
04400	-0	32000	0	01416		ANA L(8)
04401	0	02000	0	04315		TRA PL0820
04402	-0	53400	2	04403	PL1200	LXD PL1210,B
04403	1	00000	3	04404	PL1210	TXI PL1220,3,0

OBTAIN  
AND  
EXAMINE  
SYM2 (S(I))

SYM2 (S(I)) IS FLO PT, SO GO  
SET OP2 (S(I)) 32 = 1  
SYM2(S(I)) IS FIX PT

SYM2 (S(I)) IS EXTERNAL  
SYM2 (S(I)) IS INTERNAL (AND FIX PT)

GO TO THE DIAGNOSTIC.

\* GO TO THE DIAGNOSTIC.  
EXP IS 0, SO OP1 (S(I)) 33 = 0

EXP NOT LESS THAN 7, SO  
OP1 (S(I)) 33 = 0  
EXP LESS THAN 7, SO STORE EXP  
AS SYM2 (S(I)) AND SET  
OP1 (S(I)) 33 = 1

SYM2 (S(I)) IS FLO PT  
SET OP2 (S(I)) 32 = 1

SYM1 (S(I)) IS SOME S(J)  
XA TO XA,XB

SYM2 (S(I)) = SOME S(K)  
XA TO XA,XB

4F14637  
4F14638  
4F14639  
4F14640  
4F14641  
4F14642  
4F14643  
4F14644  
4F14645  
4F14646  
4F14647  
4F14648  
4F14649  
4F14650  
4F14651  
4F14652  
4F14653  
4F14654  
4F14655  
4F14656  
4F14657  
4F14658  
4F14659  
4F14660  
4F14661  
4F14662  
4F14663  
4F14664  
4F14665  
4F14666  
4F14667  
4F14668  
4F14669  
4F14670  
4F14671  
4F14672  
4F14673  
4F14674  
4F14675  
4F14676  
4F14677  
4F14678  
4F14679  
4F14680  
4F14681  
4F14682  
4F14683  
4F14684  
4F14685  
4F14686  
4F14687  
4F14688  
4F14689  
4F14690

```

04404 -0 53400 4 04416 PL1220 LXD PL1330,C
04405 -0 63400 4 04406 PL1230 SXD PL1240,C
04406 1 00000 2 04407 PL1240 TXI PL1250,B,0
04407 -0 50000 2 06650 PL1250 CAL SCRIPL,B
04410 0 73400 4 00000 PAX 0,C
04411 -0 32000 0 01452 ANA MASK2
04412 0 40200 1 06655 SUB SCRIPL+5,A
04413 0 10000 0 04417 TZE PL1340
04414 0 50000 4 05044 CLA BETA,C
04415 0 73400 4 00000 PAX 0,C
04416 1 77772 0 04405 PL1330 TXI PL1230,0,-6
04417 -0 50000 2 06651 PL1340 CAL SCRIPL+1,B
04420 -0 32000 0 01416 ANA L(8)
04421 -0 60200 1 06654 ORS SCRIPL+4,A
04422 0 02000 0 04170 TRA PLO000
04423 -0 53400 1 04136 LK0000 LXD AS3600,A
04424 -0 50000 1 06645 LK0030 CAL SCRIPL-3,A
04425 0 73400 2 00000 PAX 0,B
04426 -3 00000 2 04633 TXL LK1610,B,0
04427 0 56000 1 06646 LDQ SCRIPL-2,A
04430 0 50000 2 05044 CLA BETA,B
04431 0 62200 0 04432 STD LK0110
04432 1 00000 1 04433 LK0110 TXI LK0120,A,0
04433 -0 53400 4 04434 LK0120 LXD LK0130,C
04434 1 00000 5 04435 LK0130 TXI LK0140,5,0
04435 -0 63400 1 04136 LK0140 SXD AS3600,A
04436 0 50000 2 05043 CLA BETA-1,B
04437 -0 73400 2 00000 PDX 0,B
04440 -0 63400 2 04441 SXD LK0180,B
04441 1 00000 4 04442 LK0180 TXI LK0190,C,0
04442 0 16200 0 04566 LK0190 TQP LK1200
04443 -0 77300 0 00001 RQL 1
04444 0 16200 0 04566 TQP LK1200
04445 -0 50000 0 01404 CAL 122
04446 -0 60200 1 06651 ORS SCRIPL+1,A
04447 -0 75400 0 00000 PDX 0,0
04450 0 56000 4 06651 LDQ SCRIPL+1,C
04451 -0 76300 0 00006 LGL 6
04452 0 34000 0 01427 CAS SPECOP
04453 0 02000 0 04456 TRA LK0320
04454 0 02000 0 04543 TRA LK0950
04455 0 02000 0 04424 TRA LK0030
04456 0 16200 0 04477 LK0320 TQP LK0570
04457 -0 76300 0 00033 LGL 27
04460 -0 50000 1 06650 CAL SCRIPL,A
04461 -0 32000 0 01452 ANA MASK2
04462 0 16200 0 04472 TQP LK0480
04463 0 40200 4 06652 SUB SCRIPL+2,C
04464 -0 10000 0 04424 TNZ LK0030
04465 -0 50000 0 01411 CAL L(3)
04466 -0 60200 4 06651 LK0430 ORS SCRIPL+1,C
04467 -0 50000 0 01436 LK0440 CAL BIT29
04470 -0 60200 1 06651 ORS SCRIPL+1,A
04471 0 02000 0 04424 TRA LK0030

```

LKXC WITH -6

SYM2(S(I)) = S(K)

SET OP2(S(I)) 32 = OP1 (S(K)) 32

RESUME SCAN  
-3Q TO XA

S(I) TO XB  
EXIT UPON ENCOUNTERING S(0)  
PLACE LAST OP OP S(I) IN MQ

MOVE XA TO BEGINNING OF S(I)

XA TO XA,XC

LENGTH OF S(I-1) TO XB

MOVE XC TO BEGINNING OF S(I-1)  
S(I) TYPE AC

S(I) TYPE AC  
S(I) RESULTS IN MQ (TYPE MQ)  
SET OP1 (S(I)) 31 = 1

PLACE OP1 (S(I-1)) IN MQ

S(I)TYPTMQ, S(I-1)TYPEAC . OP1(S(I))29=0

S(I)TYPE MQ, OP1(S(I-1)) = \*\*

EXTRACT S(I) IN ACC  
OP1 (S(I-1)) 33 = 0  
OP1 (S(I-1)) 33 = 1. OPEN \*\* SUBROUTINE.  
SET OP1 (S(I)) 29 = OP1 (S(I-1)) 35 = 0  
S(I) = SYM1 (S(I-1)), SO

OP1 (S(I-1)) = 0. CLOSED \*\* SUBROUTINE.

4F14691  
4F14692  
4F14693  
4F14694  
4F14695  
4F14696  
4F14697  
4F14698  
4F14699  
4F14700  
4F14701  
4F14702  
4F14703  
4F14704  
4F14705  
4F14706  
4F14707  
4F14708  
4F14709  
4F14710  
4F14711  
4F14712  
4F14713  
4F14714  
4F14715  
4F14716  
4F14717  
4F14718  
4F14719  
4F14720  
4F14721  
4F14722  
4F14723  
4F14724  
4F14725  
4F14726  
4F14727  
4F14728  
4F14729  
4F14730  
4F14731  
4F14732  
4F14733  
4F14734  
4F14735  
4F14736  
4F14737  
4F14738  
4F14739  
4F14740  
4F14741  
4F14742  
4F14743  
4F14744

```

04472 0 40200 4 06655 LK0480 SUB SCRIPL+5,C
04473 -0 10000 0 04424 TNZ LK0030
04474 -0 50000 0 01407 CAL L(1)
04475 -0 60200 4 06654 ORS SCRIPL+4,C
04476 0 02000 0 04467 TRA LK0440
04477 -0 75400 0 00000 LK0570 PXD 0,0
04500 0 56000 4 06654 LDQ SCRIPL+4,C
04501 -0 76300 0 00006 LGL 6
04502 0 40200 0 01405 SUB STAR
04503 -0 10000 0 04424 TNZ LK0030
04504 -0 50000 0 01410 CAL L(2)
04505 -0 60200 4 06651 ORS SCRIPL+1,C
04506 -0 50000 1 06650 LK0630 CAL SCRIPL,A
04507 -0 32000 0 01452 ANA MASK2
04510 -3 00000 2 04423 LK0650 TXL LK0000,8,0
04511 0 34000 1 06647 CAS SCRIPL-1,A
04512 1 00003 1 04515 TXI LK0700,A,3
04513 0 02000 0 04516 TRA LK0710
04514 1 00003 1 04515 TXI LK0700,A,3
04515 1 77775 2 04510 LK0700 TXI LK0650,8,-3
04516 0 56000 1 06646 LK0710 LDQ SCRIPL-2,A
04517 -0 77300 0 00001 RQL 1
04520 0 16200 0 04522 TQP LK0750
04521 1 00003 1 04515 TXI LK0700,A,3
04522 0 50000 4 06650 LK0750 CLA SCRIPL,C
04523 0 56000 1 06645 LDQ SCRIPL-3,A
04524 0 60100 1 06645 STO SCRIPL-3,A
04525 -0 60000 4 06650 STQ SCRIPL,C
04526 -0 50000 4 06651 CAL SCRIPL+1,C
04527 0 56000 1 06646 LDQ SCRIPL-2,A
04530 0 60200 1 06646 SLW SCRIPL-2,A
04531 -0 60000 4 06651 STQ SCRIPL+1,C
04532 -0 32000 0 01452 ANA MASK2
04533 -0 60200 4 06651 ORS SCRIPL+1,C
04534 0 50000 4 06652 CLA SCRIPL+2,C
04535 0 56000 1 06647 LDQ SCRIPL-1,A
04536 0 60100 1 06647 STO SCRIPL-1,A
04537 -0 60000 4 06652 STQ SCRIPL+2,C
04540 -0 53400 1 04136 LXD AS3600,A
04541 -0 50000 0 01407 LK0900 CAL L(1)
04542 0 02000 0 04466 TRA LK0430
04543 -0 77300 0 00033 LK0950 RQL 27
04544 -0 50000 1 06650 CAL SCRIPL,A
04545 -0 32000 0 01452 ANA MASK2
04546 0 16200 0 04555 TQP LK1050
04547 3 00006 2 04424 TXH LK0030,8,6
04550 0 40200 4 06655 SUB SCRIPL+5,C
04551 -0 10000 0 04424 TNZ LK0030
04552 -0 50000 0 01411 CAL L(3)
04553 -0 60200 4 06654 ORS SCRIPL+4,C
04554 0 02000 0 04467 TRA LK0440
04555 -0 77300 0 00017 LK1050 RQL 15
04556 0 16200 0 04560 TQP LK1100
04557 0 02000 0 04424 TRA LK0030

```

```

SET OP1(S(I))29=OP1(S(I-1))35=0 4F14745
S(I) = SYM2 (S(I-1)), SO 4F14746
SET OP2 (S(I-1)) 35 = 1 4F14747
4F14748
4F14749
S(I) TYPE MQ, OP1 (S(I-1)) = * 4F14750
PLACE PO2 (S(I-1)) IN MQ 4F14751
IS OP2 (S(I-1)) = * 4F14752
4F14753
NO - SET OP1 (S(I)) 29 = OP1 (S(I-1)) 35 = 0 4F14754
YES 4F14755
SET OP1(S(I-1))34=1 4F14756
4F14757
SEARCH FOR S(I) IN S(I-1) 4F14758
NOT FOUND AT ALL 4F14759
4F14760
4F14761
NOT FOUND - CONTINUE SEARCH 4F14762
4F14763
S(I) IS SYMJ (S(I-1)) 4F14764
IS OPJ (S(I-1)) = * 4F14765
4F14766
4F14767
NO... CONTINUE SEARCH 4F14768
YES...PERMUTE EL1(S(I-1)) WITH ELJ(S(I-1)) 4F14769
EXCHANGE 4F14770
TAG 4F14771
WORDS 4F14772
PLACE OP1 (S(I-1)) IN ACC 4F14773
PLACE OPJ (S(I-1)) IN MQ 4F14774
EXCHANGE 4F14775
OP 4F14776
WORDS AND 4F14777
SET OP1(S(I-1))30-33= OPJ(S(I-1))30-33 4F14778
THEN 4F14779
EXCHANGE 4F14780
SYMBOL 4F14781
WORDS 4F14782
RESTORE XA 4F14783
AND 4F14784
4F14785
S(I) TYPE MQ, OP1 (S(I-1)) = SPOP 4F14786
4F14787
EXTRACT S(I) IN ACC 4F14788
OP1 (S(I-1)) 33 = 0 (CLOSED SUBROUTINE) 4F14789
OPEN MULTIV... SET OP1 (S(I)) 29 = 0 4F14790
OPEN UNIV... IS S(I) = SUM2 (S(I-1)) 4F14791
NO... SET OP1 (S(I))29 = OP2 (S(I-1))35 = 0 4F14792
AND 4F14793
SET OP2 (S(I-1))34 = OP2 (S(I-1))35 = 1 4F14794
4F14795
4F14796
TEST OP1(S(I-1))12 4F14797
FN-NAME 4F14798

```



04560	-3	00006	2	04424	LK1100	TXL	LK0030,B,6
04561	0	40200	4	06660		SUB	SCRIPL+8,C
04562	-0	10000	0	04424		TNZ	LK0030
04563	-0	50000	0	01407		CAL	L(1)
04564	-0	60200	4	06657		ORS	SCRIPL+7,C
04565	0	02000	0	04467		TRA	LK0440
04566	-0	75400	0	00000	LK1200	PXD	0,0
04567	0	56000	4	06651		LDQ	SCRIPL+1,C
04570	-0	76300	0	00006		LGL	6
04571	0	34000	0	01427		CAS	SPECOP
04572	0	02000	0	04604		TRA	LK1340
04573	0	02000	0	04622		TRA	LK1470
04574	-0	50000	1	06650		CAL	SCRIPL,A
04575	-0	32000	0	01452		ANA	MASK2
04576	-3	00000	2	04423	LK1280	TXL	LK0000,B,0
04577	0	34000	1	06647		CAS	SCRIPL-1,A
04600	1	00003	1	04603		TXI	LK1330,A,3
04601	0	02000	0	04522		TRA	LK0750
04602	1	00003	1	04603		TXI	LK1330,A,3
04603	1	77775	2	04576	LK1330	TXI	LK1280,B,-3
04604	0	16200	0	04612	LK1340	TQP	LK1410
04605	-0	50000	1	06650		CAL	SCRIPL,A
04606	-0	32000	0	01452		ANA	MASK2
04607	0	40200	4	06652		SUB	SCRIPL+2,C
04610	-0	10000	0	04424		TNZ	LK0030
04611	0	02000	0	04541		TRA	LK0900
04612	-0	75400	0	00000	LK1410	PXD	0,0
04613	0	56000	4	06654		LDQ	SCRIPL+4,C
04614	-0	76300	0	00006		LGL	6
04615	0	40200	0	01402		SUB	SLASH
04616	0	10000	0	04506		TZE	LK0630
04617	-0	50000	0	01410		CAL	L(2)
04620	-0	60200	4	06651		ORS	SCRIPL+1,C
04621	0	02000	0	04423		TRA	LK0000
04622	-0	77300	0	00033	LK1470	RQL	27
04623	-0	50000	1	06650		CAL	SCRIPL,A
04624	-0	32000	0	01452		ANA	MASK2
04625	0	16200	0	04630		TQP	LK1530
04626	3	00006	2	04424		TXH	LK0030,B,6
04627	0	02000	0	04472	LK1520	TRA	LK0480
04630	-0	77300	0	00017	LK1530	RQL	15
04631	0	16200	0	04472		TQP	LK0480
04632	0	02000	0	04424		TRA	LK0030
04633	-0	53400	2	05044	LK1610	LXD	BETA,B
04634	-0	75400	0	00000		PXD	0,0
04635	0	56000	1	06646		LDQ	SCRIPL-2,A
04636	3	00003	2	04655		TXH	LK1780,B,3
04637	-0	76300	0	00006		LGL	6
04640	0	40200	0	01401		SUB	11Z
04641	0	10000	0	04662		TZE	LKK000
04642	-0	50000	0	06652		CAL	SCRIPL+2
04643	-0	32000	0	01527		ANA	MASK1
04644	-0	10000	0	04662		TNZ	LKK000
04645	-0	50000	0	06654		CAL	SCRIPL+4

CLOSED UNIV. SBRTN  
 CLOSED MULTIV. SBRTN  
 S(I) NOT = SYM3 (S(I-1))  
 S(I) = SYM3 (S(I-1)), SO  
 SET OP3 (S(I-1))35 = 1

S(I) TYPE AC  
 PLACE OP1 (S(I-1)) IN MQ

S(I) TYPE AC, OP1 (S(I-1)) = + OR -  
 SEARCH FOR S(I) IN S(I-1)  
 NOT FOUND AT ALL

S(I) = SOME SYMJ (S(I-1))... GO PERMUTE  
 NOT FOUND... CONTINUE SEARCH

S(I) TYPE AC, OP1 (S(I-1)) = \*\*

IS S(I) = SYM1 (S(I-1))  
 NO  
 YES

S(I) TYPE AC, OP1 (S(I-1)) = \*

IS OP2 (S(I-1)) = 1

YES  
 NO  
 SET OP1 (S(I-1)) 34 = 1

S(I) TYPE AC, OP1 (S(I-1)) = SPOP

EXTRACT S(I) IN ACC

OPEN MULTIV.

FN-NAME  
 IS S(0) A SINGLE ELEMENT

NO  
 YES  
 IS OP (S(0)) = + OR -  
 OP (S(0)) = -  
 OP (S(0)) = +  
 DOES SYM (S(0)) = S(1)  
 NO  
 YES - PLACE OP1 (S(1)) IN ACC

4F14799  
 4F14800  
 4F14801  
 4F14802  
 4F14803  
 4F14804  
 4F14805  
 4F14806  
 4F14807  
 4F14808  
 4F14809  
 4F14810  
 4F14811  
 4F14812  
 4F14813  
 4F14814  
 4F14815  
 4F14816  
 4F14817  
 4F14818  
 4F14819  
 4F14820  
 4F14821  
 4F14822  
 4F14823  
 4F14824  
 4F14825  
 4F14826  
 4F14827  
 4F14828  
 4F14829  
 4F14830  
 4F14831  
 4F14832  
 4F14833  
 4F14834  
 4F14835  
 4F14836  
 4F14837  
 4F14838  
 4F14839  
 4F14840  
 4F14841  
 4F14842  
 4F14843  
 4F14844  
 4F14845  
 4F14846  
 4F14847  
 4F14848  
 4F14849  
 4F14850  
 4F14851  
 4F14852

04646 -0 32000 0 01404 ANA 12Z  
 04647 0 10000 0 04662 TZE LKK000  
 04650 -0 60200 0 06651 ORS SCRIPL+1  
 04651 0 76700 0 00002 ALS 2  
 04652 -0 60200 0 06654 ORS SCRIPL+4  
 04653 0 77100 0 00006 ARS 6  
 04654 0 02000 0 04661 TRA LK1820  
 04655 0 16200 0 04662 LK1780 TQP LKK000  
 04656 -0 77300 0 00001 RQL 1  
 04657 0 16200 0 04662 TQP LKK000  
 04660 -0 50000 0 01404 CAL 12Z  
 04661 -0 60200 0 06651 LK1820 ORS SCRIPL+1  
 04662 -0 53400 5 01117 LKK000 LXD 3QBAR,5  
 04663 -0 50000 4 06645 CAL SCRIPL-3,C  
 04664 0 73400 2 00000 PAX 0,B  
 04665 0 50000 2 05044 CLA BETA,B  
 04666 0 62200 0 04667 STD LKK050  
 04667 1 00000 4 04670 LKK050 TXI LKK060,C,0  
 04670 -0 75400 0 00000 LKK060 PXD 0,0  
 04671 0 56000 4 06651 LDQ SCRIPL+1,C  
 04672 -0 76300 0 00006 LGL 6  
 04673 0 40200 0 01405 SUB STAR  
 04674 -0 10000 0 04703 TNZ PC0000  
 04675 0 16200 0 04677 TQP LKK130  
 04676 0 02000 0 04703 TRA PC0000  
 04677 0 56000 4 06654 LKK130 LDQ SCRIPL+4,C  
 04700 -0 76300 0 00002 LGL 2  
 04701 0 76000 0 00001 LBT  
 04702 -0 60200 4 06651 ORS SCRIPL+1,C  
 04703 -0 53400 4 01122 PC0000 LXD ARGCTR,C  
 04704 3 00000 4 04706 TXH PC0030,C,0  
 04705 1 00001 4 04707 TXI PC0040,C,1  
 04706 0 53400 4 01406 PC0030 LXA L(0),C  
 04707 -0 50000 1 06645 PC0040 CAL SCRIPL-3,A  
 04710 0 73400 2 00000 PAX 0,B  
 04711 -3 00000 2 04725 TXL PC0190,B,0  
 04712 0 50000 2 05044 CLA BETA,B  
 04713 0 62200 0 04714 STD PC0100  
 04714 1 00000 1 04715 PC0100 TXI PC0110,A,0  
 04715 0 56000 1 06651 PC0110 LDQ SCRIPL+1,A  
 04716 -0 76300 0 00036 LGL 30  
 04717 0 76000 0 00001 LBT  
 04720 1 00454 0 04722 PC0140 TXI PC0160,0,300  
 04721 0 16200 0 04707 TQP PC0040  
 04722 -0 75400 4 00000 PC0160 PXD 0,C  
 04723 0 62200 2 05044 STD BETA,B  
 04724 1 00001 4 04707 TXI PC0040,C,1  
 04725 -0 53400 2 04720 PC0190 LXD PC0140,B  
 04726 0 50000 2 05520 PC0200 CLA BETA+300,B  
 04727 0 60100 2 06650 STO CPBETA+300,B  
 04730 2 00001 2 04726 TIX PC0200,B,1  
 04731 0 02000 0 02410 TRA STATED

OP1 (S(1)) 31 = 0  
 SET OP (S(0)) 31 = 1

SET OP1 (S(1)) 29 = 1

S(0) TYPT AC

S(0) TYPE AC  
 S(0) TYPE MQ, SO

-3Q TO XA,XC

BACK UP XA TO 1ST ELEMENT OF LAST SEGMENT

PLACE OP1 OF LAST SEGMENT IN MQ

OP1 OF LAST SEGMENT IS \*

OP2 IS \*, SO SET OP1 (S(L)) 34 = 1  
 IS THIS AN FS

NO  
 YES

EXIT AT S(0)

PLACE OP1 (S(I)) IN MQ

OP1 (S(I)) 29 = 1 AND OP1 (S(I)) 30 = 0  
 OP1 (S(I)) 29 = 0 OR OP1 (S(I)) 30 = 1  
 STORE ERAS. REL. ADD. COUNT IN BETA,  
 AND UPDATE FOR NEXT SEGMENT

GO FETCH STATE D

\* \* \* \* \*  
 \* \* \* \* \*  
 \* \* \* \* \*  
 \* \* \* \* \*  
 \* \* \* \* \*

4F14853  
 4F14854  
 4F14855  
 4F14856  
 4F14857  
 4F14858  
 4F14859  
 4F14860  
 4F14861  
 4F14862  
 4F14863  
 4F14864  
 4F14865  
 4F14866  
 4F14867  
 4F14868  
 4F14869  
 4F14870  
 4F14871  
 4F14872  
 4F14873  
 4F14874  
 4F14875  
 4F14876  
 4F14877  
 4F14878  
 4F14879  
 4F14880  
 4F14881  
 4F14882  
 4F14883  
 4F14884  
 4F14885  
 4F14886  
 4F14887  
 4F14888  
 4F14889  
 4F14890  
 4F14891  
 4F14892  
 4F14893  
 4F14894  
 4F14895  
 4F14896  
 4F14897  
 4F14898  
 4F14899  
 4F14900  
 4F14901  
 4F14902  
 4F14903  
 4F14904  
 4F14905  
 4F14906

				DICTIONARY OF OPEN SUBROUTINES FOLLOWS		
04732	-272122626060	OPSUB	OCT	672122626060	XABS	4F14907
04733	+212262606060		OCT	212262606060	ABS	4F14908
04734	-273145636060		OCT	673145636060	XINT	4F14909
04735	+314563606060		OCT	314563606060	INT	4F14910
04736	-274446246060		OCT	674446246060	XMOD	4F14911
04737	-044624606060		OCT	444624606060	MOD	4F14912
04740	-274421670060		OCT	674421670060	XMAXO	4F14913
04741	-042167016060		OCT	442167016060	MAX1	4F14914
04742	-274421670160		OCT	674421670160	XMAX1	4F14915
04743	-042167006060		OCT	442167006060	MAXO	4F14916
04744	-274431450060		OCT	674431450060	XMINO	4F14917
04745	-043145016060		OCT	443145016060	MIN1	4F14918
04746	-274431450160		OCT	674431450160	XMIN1	4F14919
04747	-043145006060		OCT	443145006060	MINO	4F14920
04750	+264346216360		OCT	264346216360	FLOAT	4F14921
04751	-272631676060		OCT	672631676060	XFIX	4F14922
04752	-223127456060		OCT	623127456060	SIGN	4F14923
04753	-276231274560		OCT	676231274560	XSIGN	4F14924
04754	-272431446060		OCT	672431446060	XDIM	4F14925
04755	+243144606060		OCT	243144606060	DIM	4F14926
	04756		BSS	10		4F14927
				* * * * *		4F14928
	04770	ENDCDR	BSS	0		4F14929
						4F149295
	05044	ENDC	ORG	2596		4F14930
	05044	BETA	BSS	300		4F14931
				END OF ARITHMETIC / STATE C.		4F14932
				* * * * *		4F14933
				ARITHMETIC / STATE D=		4F14934
				704 FORTRAN MASTER RECORD CARD / STATE D = F0160000.		4F14935
	00000		ORG	0		4F14936
00000	0 00471 0 03440		PZE	ORGD,,CLDR00		4F14937
00001	0 00000 0 06157		PZE	ENDD-1		4F14938
						4F14939
	03440	ORGD	ORG	1B24		4F14940
03440	-0 53400 1 01117	MC0000	LXD	3QBAR,A	MODE CHECKING ROUTINE	4F14941
03441	-0 63400 1 03512		SXD	MC0420,A		4F14942
03442	0 53400 1 01406		LXA	L(0),A		4F14943
03443	-0 63400 1 03461	MC0030	SXD	XASAVE,A		4F14944
03444	-0 50000 1 06650		CAL	SCRIPL,A		4F14945
03445	0 73400 2 00000	MC0050	PAX	,2	S(I) TO XB	4F14946
03446	0 50000 2 06174		CLA	CPBETA,B		4F14947
03447	0 73400 2 00454	MC0070	PAX	TAU2,B		4F14948
03450	-0 63400 2 03511		SXD	MC0410,B		4F14949
03451	-0 63400 2 03516		SXD	MC0460,B		4F14950
03452	3 77772 2 03511		TXH	MC0410,B,-6	SINGLE ELEMENT - GO ONTO S(I+1)	4F14951
03453	0 76000 0 00140		SLF		TURN OFF ALL SENSE LITES	4F14952
03454	-0 75400 0 00000		PXD	0,0	CLEAR ACC	4F14953
03455	0 56000 1 06651		LDQ	SCRIPL+1,A	PLACE OP1 (S(I)) IN MQ	4F14954
03456	-0 76300 0 00006		LGL	6		4F14955
03457	0 34000 0 01427		CAS	SPECOP		4F14956
03460	0 16200 0 03462		TQP	MC0180		

03461	1	00000	0	03511	XASAVE	TXI	MC0410,0,0
03462	-0	76300	0	00032	MC0180	LGL	26
03463	0	16200	0	03465		TQP	MC0210
03464	0	76000	0	00141		SLN	1
03465	-0	75400	0	00000	MC0210	PXD	0,0
03466	0	56000	1	06652		LDQ	SCRIPL+2,A
03467	-0	76300	0	00001		LGL	1
03470	0	76000	0	00001		LBT	
03471	0	16200	0	03514		TQP	MC0440
03472	-0	76300	0	00005		LGL	5
03473	0	34000	0	01423		CAS	L(H)
03474	0	34000	0	01425		CAS	L(O)
03475	1	00000	0	03502	XBSAVE	TXI	MC0340,0,0
03476	0	02000	0	03502		TRA	MC0340
03477	-0	76000	0	00141	MC0310	SLT	1
03500	1	00003	2	03506		TXI	MC0380,B,3
03501	0	07400	4	03400		TSX	DIAG,4
03502	-0	76000	0	00141	MC0340	SLT	1
03503	0	07400	4	03400		TSX	DIAG,4
03504	0	76000	0	00141		SLN	1
03505	1	00003	2	03506		TXI	MC0380,B,3
03506	-3	00000	2	03510	MC0380	TXL	MC0400,B,0
03507	1	77775	1	03465		TXI	MC0210,A,-3
03510	-0	53400	1	03461	MC0400	LXD	XASAVE,A
03511	1	00000	1	03512	MC0410	TXI	MC0420,A,0
03512	3	00000	1	03443	MC0420	TXH	MC0030,A,0
03513	0	02000	0	03537		TRA	CP0000
03514	-0	63400	2	03475	MC0440	SXD	XBSAVE,B
03515	-0	53400	4	03461		LXD	XASAVE,C
03516	1	00000	4	03517	MC0460	TXI	MC0470,C,0
03517	-0	50000	4	06650	MC0470	CAL	SCRIPL,C
03520	-0	32000	0	01452		ANA	MASK2
03521	0	34000	1	06652		CAS	SCRIPL+2,A
03522	0	02000	0	03524		TRA	MC0520
03523	0	02000	0	03531		TRA	MC0570
03524	0	73400	2	01226	MC0520	PAX	SIGMA1,B
03525	0	50000	2	06174		CLA	CPBETA,B
03526	0	73400	2	00000	MC0540	PAX	TAU1,B
03527	-0	63400	2	03530		SXD	MC0560,B
03530	1	00000	4	03517	MC0560	TXI	MC0470,C,0
03531	-0	53400	2	03475	MC0570	LXD	XBSAVE,B
03532	-0	50000	4	06651		CAL	SCRIPL+1,C
03533	0	77100	0	00003		ARS	3
03534	0	76000	0	00001		LBT	
03535	0	02000	0	03477		TRA	MC0310
03536	0	02000	0	03502		TRA	MC0340
03537	0	76000	0	00140	CP0000	SLF	
03540	0	60000	0	06160		STZ	FNSW
03541	-0	53400	4	01122		LXD	ARGCTR,C
03542	-3	00000	4	03550		TXL	CP0090,C,0
03543	0	07400	4	01731		TSX	CIT00,C
03544	0	00000	0	01531		HTR	ALL1
03545	0	00000	0	01531		HTR	ALL1

OP1 (S(I)) = +, - OR \*  
FIX PT  
FLO PT

PLACE SYMJ (S(I)) IN MQ - J = 1,...

SYMJ (S(I)) IS A VARIABLE

FLO PT  
FLO PT  
SYMJ (S(I)) IS A FIX PT VARIABLE  
OK  
ERROR.. FLO PT LITE ON  
SYMJ(S(I)) IS A FLO PT VARIABLE  
ERROR.. FLO PT LITE OFF  
RESTORE FLO PT LITE

FINISHED WITH S(I)  
CONTINUE SCANNING S(I). J TO J+1  
GO TO S(I+1)

EXIT TO COMPILER  
SYMJ (S(ITT = SAME S(K))

MOVE XC TO 1ST ELEMENT OF S(I+1)

EXTRACT S(K) IN ACC  
AND COMPARE WITH SYMJ (S(I))

S(K) TO XB

SYMJ (S(I)) = S(K) FOR SOME K  
PLACE OP1 (S(K)) IN ACC

S(K) IS FIX PT  
S(K) IS FLO PT

TURN OFF ALL SENSE LITES

IS THIS AN FS STATEMENT  
NO

YES - COMPILE FOUR 36 - BIT  
STRINGS IN 1 AS A PRELUDE TO  
FS STATEMENT COMPILATION

4F14957  
4F14958  
4F14959  
4F14960  
4F14961  
4F14962  
4F14963  
4F14964  
4F14965  
4F14966  
4F14967  
4F14968  
4F14969  
4F14970  
4F14971  
4F14972  
4F14973  
4F14974  
4F14975  
4F14976  
4F14977  
4F14978  
4F14979  
4F14980  
4F14981  
4F14982  
4F14983  
4F14984  
4F14985  
4F14986  
4F14987  
4F14988  
4F14989  
4F14990  
4F14991  
4F14992  
4F14993  
4F14994  
4F14995  
4F14996  
4F14997  
4F14998  
4F14999  
4F15000  
4F15001  
4F15002  
4F15003  
4F15004  
4F15005  
4F15006  
4F15007  
4F15008  
4F15009  
4F15010

03546	0	00000	0	01531	HTR ALL1
03547	0	00000	0	01531	HTR ALL1
03550	-0	50000	0	00030	CP0090 CAL EIFNO
03551	-0	32000	0	01527	ANA MASK1
03552	0	60200	0	06164	SLW CW
03553	-0	53400	1	01117	LXD 3QBAR,A
03554	0	50000	1	06645	CP0130 CLA SCRIP1-3,A
03555	0	73400	2	00000	CP0140 PAX ,2
03556	0	50000	2	06174	CLA CPBETA,B
03557	0	62200	0	01363	STD PHI(1)
03560	-0	32000	0	01452	ANA MASK2
03561	0	73400	2	01356	CP0180 PAX TAU3,B
03562	-0	63400	2	03607	SXD CP0400,B
03563	0	76000	0	00006	COM
03564	0	40000	0	01407	ADD L(1)
03565	0	76700	0	00022	ALS 18
03566	0	62200	0	03567	STD CP0240
03567	1	00000	1	03570	CP0240 TXI CP0250,A,0
03570	-0	63400	1	01117	CP0250 SXD 3QBAR,A
03571	0	56000	1	06651	LDQ SCRIP1+1,A
03572	-0	76300	0	00036	LGL 30
03573	0	76000	0	00001	LBT
03574	0	02000	0	03576	TRA CP0310
03575	0	16200	0	03604	TQP CP0370
03576	0	76000	0	00141	CP0310 SLN 1
03577	-0	77300	0	00001	RQL 1
03600	0	16200	0	03602	TQP CP0350
03601	0	76000	0	00142	SLN 2
03602	-0	77300	0	00001	CP0350 RQL 1
03603	0	02000	0	03605	TRA CP0380
03604	-0	77300	0	00002	CP0370 RQL 2
03605	0	16200	0	03611	CP0380 TQP CP0420
03606	-0	76000	0	00144	SLT 4
03607	3	00000	0	00000	CP0400 TXH 0,0,0
03610	0	02000	0	03612	TRA CP0430
03611	0	76000	0	00144	CP0420 SLN 4
03612	-0	75400	0	00000	CP0430 PXD 0,0
03613	0	56000	1	06651	LDQ SCRIP1+1,A
03614	-0	76300	0	00006	LGL 6
03615	0	34000	0	01427	CAS SPECOP
03616	1	00000	0	03672	TXI CP0960,0,0
03617	1	77775	1	04026	TXI CP2040,A,-3
03620	0	40200	0	01401	SUB 112
03621	0	10000	0	03650	TZE CP0760
03622	-0	76300	0	00035	LGL 29
03623	0	16200	0	03710	TQP CP1130
03624	-0	53400	2	03607	CP0540 LXD CP0400,B
03625	1	00003	2	03626	TXI CP0560,B,3
03626	-3	00000	2	04622	CP0560 TXL ES0000,B,0
03627	-0	63400	2	03607	SXD CP0400,B
03630	1	77775	1	03631	TXI CP0590,A,-3
03631	-0	75400	0	00000	CP0590 PXD 0,0
03632	0	56000	1	06651	LDQ SCRIP1+1,A
03633	-0	76300	0	00006	LGL 6

STO INT. FORM. NO. IN DEC. FIELD OF CW.  
-3Q TO XA  
EXTRACT CURRENT S(I)

STO ERAS. REL. ADD. IN PHI (I)

MOVE XA TO 1ST ELEMENT OF CURRENT S(I)

EXAMINE OP1 (S(I)) 29,30,31,32

OP1 (S(I)) 29 = 0  
OP1 (S(I)) 30 = 0  
OP1 (S(I)) 29 = 0 OR OP1 (S(I)) 30 = 1, SO  
SET STORE LITE  
OP1 (S(I)) 31 = 0, SO SET STO LITE  
OP1 (S(I)) 31 = 1, SO SET STQ LITE

TEST OP1 (S(I)) 32  
OP1 (S(I)) 32 = 1, SO SET FLPTSW

OP1 (S(I)) 32 = 0, SO SET FXPTSW

PLACE OP1 (S(I)) IN MQ

OP1 (S(I)) = +  
OP1 (S(I)) 35 = 0  
OP1 (S(I)) 35 = 1

GO TO END-OF-SEGMENT SBRIN

PLACE OPJ (S(I)) IN MQ

4F15011  
4F15012  
4F15013  
4F15014  
4F15015  
4F15016  
4F15017  
4F15018  
4F15019  
4F15020  
4F15021  
4F15022  
4F15023  
4F15024  
4F15025  
4F15026  
4F15027  
4F15028  
4F15029  
4F15030  
4F15031  
4F15032  
4F15033  
4F15034  
4F15035  
4F15036  
4F15037  
4F15038  
4F15039  
4F15040  
4F15041  
4F15042  
4F15043  
4F15044  
4F15045  
4F15046  
4F15047  
4F15048  
4F15049  
4F15050  
4F15051  
4F15052  
4F15053  
4F15054  
4F15055  
4F15056  
4F15057  
4F15058  
4F15059  
4F15060  
4F15061  
4F15062  
4F15063  
4F15064

03634	0	34000	0	01405	CAS	STAR
03635	0	02000	0	03716	TRA	CP1200
03636	0	02000	0	03771	TRA	CP1720
03637	0	40200	0	01401	SUB	11Z
03640	0	10000	0	03663	TZE	CP0880
03641	-0	50000	0	01550	CAL	L(FAD)
03642	-0	76000	0	00144	SLT	4
03643	0	02000	0	03646	TRA	CP0740
03644	0	76000	0	00144	SLN	4
03645	-0	50000	0	01532	CAL	L(ADD)
03646	0	60200	0	06165	CP0740	SLW CW+1
03647	0	02000	0	03766	TRA	CP1690
03650	-0	76300	0	00035	CP0760	LGL 29
03651	0	16200	0	03660	TQP	CP0850
03652	-0	50000	0	01540	CAL	L(CHS)
03653	0	60200	0	06165	SLW	CW+1
03654	0	60000	0	06166	STZ	CW+2
03655	0	60000	0	06167	STZ	CW+3
03656	0	07400	2	05104	TSX	COMP,B
03657	0	02000	0	03624	TRA	CP0540
03660	-0	50000	0	01543	CP0850	CAL L(CLS)
03661	0	60200	0	06165	SLW	CW+1
03662	0	02000	0	03712	TRA	CP1150
03663	-0	50000	0	01553	CP0880	CAL L(FSB)
03664	-0	76000	0	00144	SLT	4
03665	0	02000	0	03670	TRA	CP0940
03666	0	76000	0	00144	SLN	4
03667	-0	50000	0	01574	CAL	L(SUB)
03670	0	60200	0	06165	CP0940	SLW CW+1
03671	0	02000	0	03766	TRA	CP1690
03672	0	16200	0	03674	CP0960	TQP CP0980
03673	0	02000	0	04363	TRA	CP4140
03674	-0	76300	0	00035	CP0980	LGL 29
03675	0	76000	0	00143	SLN	3
03676	0	76000	0	00001	LBT	
03677	0	02000	0	03702	TRA	CP1050
03700	-0	76000	0	00143	SLT	3
03701	3	00000	0	00000	TXH	0,0,0
03702	0	16200	0	03704	CP1050	TQP CP1070
03703	0	02000	0	03624	TRA	CP0540
03704	-0	50000	0	01556	CP1070	CAL L(LDQ)
03705	-0	76000	0	00143	SLT	3
03706	0	02000	0	03711	TRA	CP1140
03707	0	76000	0	00143	SLN	3
03710	-0	50000	0	01541	CP1130	CAL L(CLA)
03711	0	60200	0	06165	CP1140	SLW CW+1
03712	0	07400	4	05112	CP1150	TSX AC0000,C
03713	0	07400	2	05104	TSX	COMP,B
03714	0	60000	0	06164	STZ	CW
03715	0	02000	0	03624	TRA	CP0540
03716	-0	76000	0	00143	CP1200	SLT 3
03717	0	02000	0	03731	TRA	CP1330
03720	-0	76000	0	00144	SLT	4
03721	0	02000	0	03764	TRA	CP1670

OPJ (S(I)) = /

OPJ (S(I)) = \*

OPJ (S(I)) = -

OPJ (S(I)) = +

FIX PT. RESTORE FXPTSW

OP1 (S(I)) = -

OP1 (S(I)) 35 = 1, SO

COMPILE CHS FOR 1ST ELEMENT

OP1 (S(I)) 35 = 0, SO

COMPILE CLS SYM1 (S(I)) FOR 1ST ELEMENT

OPJ (S(I)) = -

FIX PT. RESTORE FXPTSW

OP1 (S(I)) = \*

TURN LITE 3 ON

TEST OP1 (S(I)) 34

OP1 (S(I)) 34 = 0, SO LEAVE LITE 3 ON

OP1 (S(I)) 34 = 1, SO TURN LITE 3 OFF

OP1 (S(I)) 35 = 1, SO GO MODIFY J

OP1 (S(I)) 35 = 0

EL1 (S(I)) TO MQ

EL1 (S(I)) TO ACC

ADDRESS COMPILE SYM1 (S(I))

RESET CW

GO MODIFY J

OPJ (S(I)) = /

PREDECESSOR IN ACC

FLO PT.

4F15065

4F15066

4F15067

4F15068

4F15069

4F15070

4F15071

4F15072

4F15073

4F15074

4F15075

4F15076

4F15077

4F15078

4F15079

4F15080

4F15081

4F15082

4F15083

4F15084

4F15085

4F15086

4F15087

4F15088

4F15089

4F15090

4F15091

4F15092

4F15093

4F15094

4F15095

4F15096

4F15097

4F15098

4F15099

4F15100

4F15101

4F15102

4F15103

4F15104

4F15105

4F15106

4F15107

4F15108

4F15109

4F15110

4F15111

4F15112

4F15113

4F15114

4F15115

4F15116

4F15117

4F15118

03722	0	76000	0	00144	SLN	4
03723	0	07400	4	01731	TSX	CIT00,C
03724	0	00000	0	01406	HTR	L(0)
03725	0	00000	0	01560	HTR	L(LRS)
03726	0	00000	0	01406	HTR	L(0)
03727	0	00000	0	01472	HTR	DEC35
03730	0	02000	0	03734	TRA	CP1450
03731	-0	76000	0	00144	CP1330	SLT 4
03732	0	02000	0	03753	TRA	CP1570
03733	0	76000	0	00144	SLN	4
03734	0	50000	0	01547	CP1450	CLA L(DVP)
03735	0	60100	0	06165	STO	CW+1
03736	0	07400	4	05112	TSX	AC0000,C
03737	0	07400	2	05104	TSX	COMP,B
03740	0	07400	4	01731	TSX	CIT00,C
03741	0	00000	0	01406	HTR	L(0)
03742	0	00000	0	01542	HTR	L(CLM)
03743	0	00000	0	01406	HTR	L(0)
03744	0	00000	0	01406	HTR	L(0)
03745	0	07400	4	01731	TSX	CIT00,C
03746	0	00000	0	01406	HTR	L(0)
03747	0	00000	0	01557	HTR	L(LLS)
03750	0	00000	0	01406	HTR	L(0)
03751	0	00000	0	01466	HTR	DEC18
03752	0	02000	0	03624	TRA	CP0540
03753	0	50000	0	01573	CP1570	CLA L(STQ)
03754	0	60100	0	06165	STO	CW+1
03755	0	50000	0	01505	CLA	XI
03756	0	60100	0	06166	STO	CW+2
03757	0	60000	0	06167	STZ	CW+3
03760	0	07400	2	05104	TSX	COMP,B
03761	0	50000	0	01541	CLA	L(CLA)
03762	0	60100	0	06165	STO	CW+1
03763	0	07400	2	05104	TSX	COMP,B
03764	0	50000	0	01551	CP1670	CLA L(FDP)
03765	0	60100	0	06165	STO	CW+1
03766	0	07400	4	05112	CP1690	TSX AC0000,C
03767	0	07400	2	05104	TSX	COMP,B
03770	0	02000	0	03624	TRA	CP0540
03771	-0	76000	0	00143	CP1720	SLT 3
03772	0	02000	0	04004	TRA	CP1840
03773	0	50000	0	01572	CLA	L(STO)
03774	0	60100	0	06165	STO	CW+1
03775	0	50000	0	01505	CLA	XI
03776	0	60100	0	06166	STO	CW+2
03777	0	60000	0	06167	STZ	CW+3
04000	0	07400	2	05104	TSX	COMP,B
04001	0	50000	0	01556	CLA	L(LDQ)
04002	0	60100	0	06165	STO	CW+1
04003	0	07400	2	05104	TSX	COMP,B
04004	0	76000	0	00143	CP1840	SLN 3
04005	0	07400	4	05112	TSX	AC0000,C
04006	-0	76000	0	00144	SLT	4
04007	0	02000	0	04022	TRA	CP2000

FIX PT. RESTORE FXPTSW  
COMPILE LRS 35

PREDECESSOR IN MQ  
AND SEGMENT IS  
FIX PT. RESTORE FXPTSW

ADDRESS COMPILE SYMJ (S(I))  
COMPILE DVP SYMJ (S(I))  
COMPILE CLM

COMPILE LLS 18

GO MODIFY J  
PREDECESSOR IN MQ  
AND SEGMENT IS FLO PT

COMPILE STQ 700000

COMPILE CLA 700000

COMPILE FDP SYMJ (S(I))  
ADDRESS COMPILE SYMJ (S(I))

GO MODIFY J  
OPJ(S(I))=\*

PREDECESSOR IN ACC

COMPILE STO 700000

COMPILE LDQ 700000  
TURN LATE 3 ON  
ADDRESS COMPILE SYMJ(S(I))

4F15119  
4F15120  
4F15121  
4F15122  
4F15123  
4F15124  
4F15125  
4F15126  
4F15127  
4F15128  
4F15129  
4F15130  
4F15131  
4F15132  
4F15133  
4F15134  
4F15135  
4F15136  
4F15137  
4F15138  
4F15139  
4F15140  
4F15141  
4F15142  
4F15143  
4F15144  
4F15145  
4F15146  
4F15147  
4F15148  
4F15149  
4F15150  
4F15151  
4F15152  
4F15153  
4F15154  
4F15155  
4F15156  
4F15157  
4F15158  
4F15159  
4F15160  
4F15161  
4F15162  
4F15163  
4F15164  
4F15165  
4F15166  
4F15167  
4F15168  
4F15169  
4F15170  
4F15171  
4F15172

04010	0	76000	0	00144	SLN 4
04011	0	50000	0	01562	CLA L(MPY)
04012	0	60100	0	06165	STO CW+1
04013	0	07400	2	05104	TSX COMP,B
04014	0	07400	4	01731	TSX CIT00,C
04015	0	00000	0	01406	HTR L(0)
04016	0	00000	0	01533	HTR L(ALS)
04017	0	00000	0	01406	HTR L(0)
04020	0	00000	0	01465	HTR DEC17
04021	0	02000	0	03624	TRA CP0540
04022	0	50000	0	01552	CP2000 CLA L(FMP)
04023	0	60100	0	06165	STO CW+1
04024	0	07400	2	05104	TSX COMP,B
04025	0	02000	0	03624	TRA CP0540
04026	-0	76300	0	00007	CP2040 LGL 7
04027	0	76000	0	00001	LBT
04030	0	16200	0	04150	TQP CP2650
04031	0	16200	0	04473	TQP CP5000
04032	-0	75400	0	00000	PXD 0,0
04033	0	76300	0	00017	LLS 15
04034	-0	50100	0	01503	ORA PI
04035	0	60200	0	06162	SLW ARGORG
04036	-0	32000	0	01452	ANA MASK2
04037	-0	50100	0	01505	ORA XI
04040	0	60200	0	06163	SLW XRSAVE
04041	0	50000	1	06651	CLA SCRIP1+1,A
04042	0	76000	0	00001	LBT
04043	0	02000	0	04052	TRA CP2150
04044	0	07400	4	01731	CP2100 TSX CIT00,C
04045	0	00000	0	01406	HTR L(0)
04046	0	00000	0	01572	HTR L(STO)
04047	0	00000	0	06162	HTR ARGORG
04050	0	00000	0	01406	HTR L(0)
04051	1	77775	1	04057	TXI CP2200,A,-3
04052	-0	50000	0	01541	CP2150 CAL L(CLA)
04053	0	60200	0	06165	SLW CW+1
04054	0	07400	4	05112	TSX AC0000,C
04055	0	07400	2	05104	TSX COMP,B
04056	0	02000	0	04044	TRA CP2100
04057	0	60000	0	06164	CP2200 STZ CW
04060	-0	53400	2	03607	LXD CP0400,B
04061	1	00003	2	04062	TXI CP2230,B,3
04062	3	77772	2	04125	CP2230 TXH CP2500,B,-6
04063	-0	63400	2	03607	SXD CP0400,B
04064	0	50000	1	06651	CLA SCRIP1+1,A
04065	0	76000	0	00001	LBT
04066	0	02000	0	04075	TRA CP2300
04067	0	07400	4	01731	CP2250 TSX CIT00,C
04070	0	00000	0	01406	HTR L(0)
04071	0	00000	0	01573	HTR L(STQ)
04072	0	00000	0	06162	HTR ARGORG
04073	0	00000	0	01454	HTR 2E18
04074	1	77775	1	04102	TXI CP2350,A,-3
04075	-0	50000	0	01556	CP2300 CAL L(LDQ)

FIX PT. RESTORE FXPTSW

COMPILE MPY SYMJ(S(I))  
COMPILE ALS 17

GO MODIFY J  
FLO PT.

COMPILE FMP SYMJ(S(I))  
GO MODIFY J.  
OP1(S(I))=SPOP  
TEST OP1(S(I))12  
LIB OR OPEN FUNCTION  
FN-FUNCTION  
FS-FUNCTION  
PUT TYPE NO IN ADD(ACC)  
FORM 4...TYPE NO.  
AND STO IN ARGORG

FORM 7...TYPE NO.  
AND STO IN XRSAVE

EXAMINE OP2(S(I))35  
1ST ARG STORED  
1ST ARG IN ACC  
COMPILE STO 4...TYPE NO. + 0

GO ON TO OP3(S(I))

ADDRESS COMPILE SYM2(S(I))  
COMPILE CLA SYM2(S(I))

RESET CW

FINISHED WITH S(I)

EXAMINE OP3(S(I))35  
2ND ARG STORED  
2ND ARG IN MQ  
COMPILE STQ 4...TYPE NO. + 1

GO ON TO SYM4(S(I))

4F15173  
4F15174  
4F15175  
4F15176  
4F15177  
4F15178  
4F15179  
4F15180  
4F15181  
4F15182  
4F15183  
4F15184  
4F15185  
4F15186  
4F15187  
4F15188  
4F15189  
4F15190  
4F15191  
4F15192  
4F15193  
4F15194  
4F15195  
4F15196  
4F15197  
4F15198  
4F15199  
4F15200  
4F15201  
4F15202  
4F15203  
4F15204  
4F15205  
4F15206  
4F15207  
4F15208  
4F15209  
4F15210  
4F15211  
4F15212  
4F15213  
4F15214  
4F15215  
4F15216  
4F15217  
4F15218  
4F15219  
4F15220  
4F15221  
4F15222  
4F15223  
4F15224  
4F15225  
4F15226



04076	0	60200	0	06165	SLW	CW+1	
04077	0	07400	4	05112	TSX	AC0000,C	
04100	0	07400	2	05104	TSX	COMP,B	
04101	0	02000	0	04067	TRA	CP2250	
04102	0	50000	0	01521	CP2350	CLA	DECM12
04103	0	60200	0	06161	SLW	P(CNTR	
04104	-0	53400	2	03607	CP2370	LXD	CP0400,B
04105	1	00003	2	04106	TXI	CP2390,B,3	
04106	3	77772	2	04125	CP2390	TXH	CP2500,B,-6
04107	-0	63400	2	03607	SXD	CP0400,B	
04110	-0	50000	0	01541	CAL	L(CLA)	
04111	0	60200	0	06165	SLW	CW+1	
04112	0	07400	4	05112	TSX	AC0000,C	
04113	0	07400	2	05104	TSX	COMP,B	
04114	0	07400	4	01731	TSX	CIT00,C	
04115	0	00000	0	01406	HTR	L(0)	
04116	0	00000	0	01572	HTR	L(STO)	
04117	0	00000	0	06162	HTR	ARGORG	
04120	0	00000	0	06161	HTR	P(CNTR	
04121	0	50000	0	06161	CLA	P(CNTR	
04122	0	40000	0	01454	ADD	2E18	
04123	0	60100	0	06161	STO	P(CNTR	
04124	1	77775	1	04104	TXI	CP2370,A,-3	
04125	-0	53400	1	01117	CP2500	LXD	3QBAR,A
04126	-0	50000	0	01575	CAL	L(SXD)	
04127	0	60200	0	06165	SLW	CW+1	
04130	-0	50000	0	06163	CAL	XRSAVE	
04131	0	60200	0	06166	SLW	CW+2	
04132	-0	50000	0	01412	CAL	L(4)	
04133	0	60200	0	06167	SLW	CW+3	
04134	0	07400	2	05104	TSX	COMP,B	
04135	-0	50000	0	01602	CAL	L(TSX)	
04136	0	60200	0	06165	SLW	CW+1	
04137	-0	50000	1	06652	CAL	SCRIP1+2,A	
04140	0	60200	0	06166	SLW	CW+2	
04141	0	07400	2	05104	TSX	COMP,B	
04142	-0	50000	0	01561	CAL	L(LXD)	
04143	0	60200	0	06165	SLW	CW+1	
04144	-0	50000	0	06163	CAL	XRSAVE	
04145	0	60200	0	06166	SLW	CW+2	
04146	0	02000	0	05241	TRA	CP6000	
04147	1	00000	0	04622	CP5830	TXI	ES0000,0,0
04150	-0	76300	0	00024	CP2650	LGL	20
04151	0	16200	0	04217	TQP	CP3060	
04152	0	50200	0	06164	CLS	CW	
04153	0	60100	0	06164	STO	CW	
04154	0	50000	1	06647	CLA	SCRIP1-1,A	
04155	0	60100	0	06166	STO	CW+2	
04156	0	07400	2	05104	TSX	COMP,B	
04157	0	60000	0	06164	STZ	CW	
04160	-0	53400	2	03607	LXD	CP0400,B	
04161	-3	77767	2	04203	TXL	CP2930,B,-9	
04162	-0	50000	0	01531	CAL	ALL1	

ADDRESS COMPILE SYM3(S(I))  
COMPILE LDQ SYM3(S(I))

INITIALIZE DEC(P(CNTR) TO 2

FINISHED WITH S(I)

ADDRESS COMPILE SYMJ(S(I)), J=4,...  
COMPILE CLA SYMJ(S(I)), J=4,...  
COMPILE STO 4...TYPE NO. + J-2, J=4,...

UPDATE P(CNTR

FINISHED WITH S(I)

COMPILE SXD 7...TYPE NO. , 4

COMPILE TSX SYM1(S(I)),4

TEST OP1(S(I))33  
0... LIB. SBRTN  
1... OPEN SBRTN  
CW TO -CW

COMPILE FUNCTION NAME  
RESET CW

OPEN UNIVARIATE FUNCTION

4F15227  
4F15228  
4F15229  
4F15230  
4F15231  
4F15232  
4F15233  
4F15234  
4F15235  
4F15236  
4F15237  
4F15238  
4F15239  
4F15240  
4F15241  
4F15242  
4F15243  
4F15244  
4F15245  
4F15246  
4F15247  
4F15248  
4F15249  
4F15250  
4F15251  
4F15252  
4F15253  
4F15254  
4F15255  
4F15256  
4F15257  
4F15258  
4F15259  
4F15260  
4F15261  
4F15262  
4F15263  
4F15264  
4F15265  
4F15266  
4F15267  
4F15268  
4F15269  
4F15270  
4F15271  
4F15272  
4F15273  
4F15274  
4F15275  
4F15276  
4F15277  
4F15278  
4F15279  
4F15280

04163	0	60200	0	06164	SLW CW
04164	0	50000	1	06651	CLA SCRIPL+1,A
04165	0	76000	0	00001	LBT
04166	0	02000	0	04201	TRA CP2900
04167	0	77100	0	00001	ARS 1
04170	0	56000	0	01512	LDQ ADPLUS
04171	0	76000	0	00001	LBT
04172	0	02000	0	04174	TRA CP2860
04173	0	56000	0	01524	LDQ ADSTAR
04174	-0	60000	0	06166	CP2860 STQ CW+2
04175	0	60000	0	06167	STZ CW+3
04176	0	07400	2	05104	CP2880 TSX COMP,B
04177	0	60000	0	06164	STZ CW
04200	0	02000	0	04622	TRA ES0000
04201	0	07400	4	05112	CP2900 TSX AC0000,C
04202	0	02000	0	04176	TRA CP2880
04203	0	07400	4	05112	CP2930 TSX AC0000,C
04204	-0	53400	2	03607	LXD CP0400,B
04205	1	00003	2	04206	TXI CP2960,B,3
04206	3	77772	2	04212	CP2960 TXH CP3000,B,-6
04207	-0	63400	2	03607	SXD CP0400,B
04210	0	07400	2	05104	TSX COMP,B
04211	1	77775	1	04203	TXI CP2930,A,-3
04212	-0	50000	0	01531	CP3000 CAL ALL1
04213	0	60200	0	06164	SLW CW
04214	0	07400	2	05104	TSX COMP,B
04215	0	60000	0	06164	STZ CW
04216	0	02000	0	04622	TRA ES0000
04217	-3	77767	2	04246	CP3060 TXL CP3350,B,-9
04220	0	50000	1	06651	CLA SCRIPL+1,A
04221	0	76000	0	00001	LBT
04222	0	02000	0	04240	TRA CP3280
04223	0	50000	0	01575	CP3100 CLA L(SXD)
04224	0	60100	0	06165	STO CW+1
04225	0	50000	0	01505	CLA XI
04226	0	60100	0	06166	STO CW+2
04227	0	50000	0	01412	CLA L(4)
04230	0	60100	0	06167	STO CW+3
04231	0	07400	2	05104	TSX COMP,B
04232	0	50000	0	01602	CLA L(TSX)
04233	0	60100	0	06165	STO CW+1
04234	0	50000	1	06647	CLA SCRIPL-1,A
04235	0	60100	0	06166	STO CW+2
04236	0	07400	2	05104	TSX COMP,B
04237	0	02000	0	04615	TRA CP5780
04240	0	50000	0	01541	CP3280 CLA L(CLA)
04241	0	60100	0	06165	STO CW+1
04242	0	07400	4	05112	TSX AC0000,C
04243	0	07400	2	05104	TSX COMP,B
04244	0	60000	0	06164	STZ CW
04245	0	02000	0	04223	TRA CP3100
04246	-3	77764	2	04272	CP3350 TXL CP3560,B,-12
04247	0	50000	1	06651	CLA SCRIPL+1,A
04250	0	76000	0	00001	LBT

EXAMINE OP2(S(I))35  
 0... ARG STORED  
 1... ARG NOT STORED

COMPILE ACC OR MQ INDICATOR  
 RESET CW

ADDRESS COMPILE SYM2(S(I))  
 GO COMPILE SYM2(S(I))  
 OPEN MULTIVARIATE FUNCTION

COMPILE SYMJ(S(I))

COMPILE LAST ARGUMENT NAME  
 RESET CW  
 GO TO END-OF-SEGMENT SBRTN

CLOSED UNIVARIATE FUNCTION  
 EXAMINE OP2(S(I))35  
 0... ARG STORED  
 1... ARG IN ACC

COMPILE SXD7...0,4

COMPILE TSX SYM1(S(I)),4  
 COMPILE FLOW TRACE INFO AND LXD 7(,4

ADDRESS COMPILE SYM2(S(I))  
 COMPILE CLA SYM2(S(I))  
 RESET CW  
 GO COMPILE SXD,TSX,LXD SEQUENCE

CLOSED BIVARIATE FUNCTION  
 EXAMINE OP2(S(I))35

4F15281  
 4F15282  
 4F15283  
 4F15284  
 4F15285  
 4F15286  
 4F15287  
 4F15288  
 4F15289  
 4F15290  
 4F15291  
 4F15292  
 4F15293  
 4F15294  
 4F15295  
 4F15296  
 4F15297  
 4F15298  
 4F15299  
 4F15300  
 4F15301  
 4F15302  
 4F15303  
 4F15304  
 4F15305  
 4F15306  
 4F15307  
 4F15308  
 4F15309  
 4F15310  
 4F15311  
 4F15312  
 4F15313  
 4F15314  
 4F15315  
 4F15316  
 4F15317  
 4F15318  
 4F15319  
 4F15320  
 4F15321  
 4F15322  
 4F15323  
 4F15324  
 4F15325  
 4F15331  
 4F15332  
 4F15333  
 4F15334  
 4F15335  
 4F15336  
 4F15337  
 4F15338  
 4F15339

04251	0	02000	0	04260	TRA CP3450
04252	0	50000	0	01556	CP3390 CLA L(LDQ)
04253	0	60100	0	06165	STO CW+1
04254	1	77775	1	04255	TXI CP3420,A,-3
04255	0	07400	4	05112	CP3420 TSX AC0000,C
04256	0	07400	2	05104	TSX COMP,B
04257	1	00003	1	04223	TXI CP3100,A,3
04260	0	50000	1	06654	CP3450 CLA SCRIPL+4,A
04261	0	76000	0	00001	LBT
04262	0	02000	0	04264	TRA CP3490
04263	0	02000	0	04240	TRA CP3280
04264	0	50000	0	01541	CP3490 CLA L(CLA)
04265	0	60100	0	06165	STO CW+1
04266	0	07400	4	05112	TSX AC0000,C
04267	0	07400	2	05104	TSX COMP,B
04270	0	60000	0	06164	STZ CW
04271	0	02000	0	04252	TRA CP3390
04272	0	50000	1	06651	CP3560 CLA SCRIPL+1,A
04273	0	76000	0	00001	LBT
04274	1	77772	1	04324	TXI CP3820,A,-6
04275	1	77772	1	04276	TXI CP3600,A,-6
04276	0	50000	0	01521	CP3600 CLA DECM12
04277	0	60100	0	06161	STO P(CNTR
04300	0	50000	0	01556	CP3620 CLA L(LDQ)
04301	0	60100	0	06165	STO CW+1
04302	0	07400	4	05112	TSX AC0000,C
04303	0	07400	2	05104	TSX COMP,B
04304	0	50000	0	01573	CLA L(STQ)
04305	0	60100	0	06165	STO CW+1
04306	0	50000	0	01503	CLA P1
04307	0	60100	0	06166	STO CW+2
04310	0	50000	0	06161	CLA P(CNTR
04311	0	60100	0	06167	STO CW+3
04312	0	40200	0	01454	SUB 2E18
04313	0	60100	0	06161	STO P(CNTR
04314	0	07400	2	05104	TSX COMP,B
04315	-0	53400	2	03607	LXD CP0400,B
04316	1	00003	2	04317	TXI CP3770,B,3
04317	-3	77764	2	04322	CP3770 TXL CP3800,B,-12
04320	-0	53400	1	01117	LXD 3QBAR,A
04321	1	77775	1	04252	TXI CP3390,A,-3
04322	-0	63400	2	03607	CP3800 SXD CP0400,B
04323	1	77775	1	04300	TXI CP3620,A,-3
04324	0	50000	1	06646	CP3820 CLA SCRIPL-2,A
04325	0	76000	0	00001	LBT
04326	1	00006	1	04355	TXI CP4070,A,6
04327	0	50000	0	01521	CLA DECM12
04330	0	60100	0	06161	STO P(CNTR
04331	0	50000	0	01541	CP3870 CLA L(CLA)
04332	0	60100	0	06165	STO CW+1
04333	0	07400	4	05112	TSX AC0000,C
04334	0	07400	2	05104	TSX COMP,B
04335	0	50000	0	01572	CLA L(STO)
04336	0	60100	0	06165	STO CW+1

```

0... ARG1 STORED
1... ARG1 IN ACC

ADDRESS COMPILE SYM3(S(I))
COMPILE LDQ SYM3(S(I))
GO COMPILE SXD,TSX,LXD SEQUENCE

EXAMINE OP3(S(I))35
0... ARG2 STORED
1... ARG2 IN MQ

ADDRESS COMPILE SYM2(S(I))
COMPILE CLA SYM2(S(I))
REST CW
GO COMPILE LDQ,SXD,TSX,LXD SEQUENCE
CLOSED MULTIVARIATE FUNCTION
EXAMINE OP2(S(I))35
0... ARG1 STORED
1... ARG1 IN ACC

INITIALIZE P(CNTR TO -2

ADDRESS COMPILE SYMJ(S(I)) FOR J=4,5,...
COMPILE LDQ SYMJ(S(I))

COMPILE STQ 4...0-(J-2)

FINISHED WITH ARG VECTOR

GO PICK UP NEXT ARG.

EXAMINE OP3(S(I))35
0... ARG2 STORED
1... ARG2 IN MQ

ADDRESS COMPILE SYMJ(S(I)) FOR J=4,5,...
COMPILE CLA SYMJ(S(I))

```

```

4F15340
4F15341
4F15342
4F15343
4F15344
4F15345
4F15346
4F15347
4F15348
4F15349
4F15350
4F15351
4F15352
4F15353
4F15354
4F15355
4F15356
4F15357
4F15358
4F15359
4F15360
4F15361
4F15362
4F15363
4F15364
4F15365
4F15366
4F15367
4F15368
4F15369
4F15370
4F15371
4F15372
4F15373
4F15374
4F15375
4F15376
4F15377
4F15378
4F15379
4F15380
4F15381
4F15382
4F15383
4F15384
4F15385
4F15386
4F15387
4F15388
4F15389
4F15390
4F15391
4F15392
4F15393

```

04337	0	50000	0	01503	CLA PI
04340	0	60100	0	06166	STO CW+2
04341	0	50000	0	06161	CLA P(CNTR
04342	0	60100	0	06167	STO CW+3
04343	0	40200	0	01454	SUB 2E18
04344	0	60100	0	06161	STO P(CNTR
04345	0	07400	2	05104	TSX COMP,B
04346	-0	53400	2	03607	LXD CP0400,B
04347	1	00003	2	04350	TXI CP4020,B,3
04350	-3	77764	2	04353	CP4020 TXL CP4050,B,-12
04351	-0	53400	1	01117	LXD 3QBAR,A
04352	1	77775	1	04240	TXI CP3280,A,-3
04353	-0	63400	2	03607	CP4050 SXD CP0400,B
04354	1	77775	1	04331	TXI CP3870,A,-3
04355	0	50000	0	01541	CP4070 CLA L(CLA)
04356	0	60100	0	06165	STO CW+1
04357	0	07400	4	05112	TSX AC0000,C
04360	0	07400	2	05104	TSX COMP,B
04361	0	60000	0	06164	STZ CW
04362	1	77772	1	04276	TXI CP3600,A,-6
04363	-0	76300	0	00033	CP4140 LGL 27
04364	0	16200	0	04415	TQP CP4410
04365	0	76000	0	00001	LBT
04366	0	02000	0	04371	TRA CP4200
04367	0	50000	0	01525	CLA STRSTR
04370	0	02000	0	04372	TRA CP4210
04371	0	50000	0	01524	CP4200 CLA ADSTAR
04372	0	60100	0	06165	CP4210 STO CW+1
04373	-0	76300	0	00002	LGL 2
04374	0	16200	0	04403	TQP CP4310
04375	0	56000	0	01524	LDQ ADSTAR
04376	0	76000	0	00001	LBT
04377	0	56000	0	01512	LDQ ADPLUS
04400	-0	60000	0	06166	STQ CW+2
04401	0	60000	0	06167	STZ CW+3
04402	0	02000	0	04404	TRA CP4320
04403	0	07400	4	05112	CP4310 TSX AC0000,C
04404	0	50200	0	06164	CP4320 CLS CW
04405	0	60100	0	06164	STO CW
04406	0	07400	2	05104	TSX COMP,B
04407	0	60000	0	06164	STZ CW
04410	0	50000	1	06655	CLA SRIPL+5,A
04411	0	60100	0	06166	STO CW+2
04412	0	07400	2	05104	TSX COMP,B
04413	0	60000	0	06165	STZ CW+1
04414	0	02000	0	04622	TRA ES0000
04415	-0	76300	0	00003	CP4410 LGL 3
04416	0	76000	0	00001	LBT
04417	0	02000	0	04462	TRA CP4860
04420	0	50000	0	01556	CP4440 CLA L(LDQ)
04421	0	60100	0	06165	STO CW+1
04422	1	77775	1	04423	TXI CP4470,A,-3
04423	0	07400	4	05112	CP4470 TSX AC0000,C
04424	0	07400	2	05104	TSX COMP,B

COMPILE STO 4...0-(J-2)

FINISHED WITH ARG VECTOR

GO PICK UP NEXT ARG

ADDRESS COMPILE SYM2(S(I))  
COMPILE CLASYM2(S(I))  
RESET CW

OP1(S(I))=\*\*  
CLOSED SBRTN SINCE OP1(S(I))33=0  
OPEN SBRTN SINCE OP1(S(I))33=1  
BASE FIX PT SINCE OP1(S(I))32=0  
BASE FLO PT SINCE OP1(S(I))32=1

EXAMINE OP1(S(I))35  
0... BASE STORED  
1... BASE NOT STORED  
EXAMINE OP1(S(I))34  
0... BASE IN ACC  
1...BASE IN MQ

ADDRESS COMPILE SYM1(S(I))

CW TO -CW  
COMPILE BASE  
RESET CW

COMPILE FIX PT CONSTANT EXPONENT  
RESET CW+1

CLOSED EXP. SBRTN  
EXAMINE OP1(S(I))35  
0... BASE STORED  
1... BASE IN ACC.

ADDRESS COMPILE SYM2(S(I))  
COMPILE LDQ SYM2 (S(I))

4F15394  
4F15395  
4F15396  
4F15397  
4F15398  
4F15399  
4F15400  
4F15401  
4F15402  
4F15403  
4F15404  
4F15405  
4F15406  
4F15407  
4F15408  
4F15409  
4F15410  
4F15411  
4F15412  
4F15413  
4F15414  
4F15415  
4F15416  
4F15417  
4F15418  
4F15419  
4F15420  
4F15421  
4F15422  
4F15423  
4F15424  
4F15425  
4F15426  
4F15427  
4F15428  
4F15429  
4F15430  
4F15431  
4F15432  
4F15433  
4F15434  
4F15435  
4F15436  
4F15437  
4F15438  
4F15439  
4F15440  
4F15441  
4F15442  
4F15443  
4F15444  
4F15445  
4F15446  
4F15447

04425	0	50000	0	01575	CP4490	CLA L(SXD)
04426	0	60100	0	06165		STO CW+1
04427	0	50000	0	01505		CLA X(
04430	0	60100	0	06166		STO CW+2
04431	0	50000	0	01412		CLA L(4)
04432	0	60100	0	06167		STO CW+3
04433	0	07400	2	05104		TSX COMP,B
04434	0	50000	0	01602		CLA L(ITSX)
04435	0	60100	0	06165		STO CW+1
04436	0	50000	1	06651		CLA SCRIPL+1,A
04437	0	77100	0	00003		ARS 3
04440	0	76000	0	00001		LBT
04441	1	00003	1	04447		TXI CP4660,A,3
04442	0	50000	0	01516		CLA FLFL
04443	0	56000	1	06646		LDQ SCRIPL-2,A
04444	-0	77300	0	00040		RQL 32
04445	0	16200	0	03501		TQP MC0310+2
04446	0	02000	0	04454		TRA CP4730
04447	0	56000	1	06651	CP4660	LDQ SCRIPL+1,A
04450	-0	77300	0	00040		RQL 32
04451	0	50000	0	01514		CLA FXFX
04452	0	16200	0	04454		TQP CP4730
04453	0	50000	0	01515		CLA FLFX
04454	0	60100	0	06166	CP4730	STO CW+2
04455	0	60100	0	01347		STO G
04456	0	07400	2	05104		TSX COMP,B
04457	0	07400	1	03321		TSX TET00,A
04460	0	00000	0	00011		HTR 9
04461	0	02000	0	04615		TRA CP5780
04462	0	50000	0	01541	CP4860	CLA L(CLA)
04463	0	60100	0	06165		STO CW+1
04464	0	07400	4	05112		TSX AC0000,C
04465	0	07400	2	05104		TSX COMP,B
04466	0	60000	0	06164		STZ CW
04467	0	50000	1	06654		CLA SCRIPL+4,A
04470	0	76000	0	00001		LBT
04471	1	00000	0	04420		TXI CP4440,0,0
04472	1	77775	1	04425		TXI CP4490,A,-3
04473	0	50000	0	00030	CP5000	CLA EIFNO
04474	0	40000	0	01454		ADD 2E18
04475	0	60100	0	00030		STO EIFNO
04476	0	60100	0	06160		STO FNSW
04477	0	62200	0	01105		STD 1C
04500	0	53400	4	01407		LXA L(1),C
04501	0	50000	1	06650	CP5050	CLA SCRIPL,A
04502	-0	12000	0	04516		TMI CP5180
04503	-0	63400	2	04147		SXD CP5830,B
04504	-0	63400	4	04577		SXD STACTR,C
04505	0	07400	4	05112		TSX AC0000,C
04506	-0	50000	0	06173		CAL TAGPRT
04507	-0	10000	0	04522		TNZ CP5220
04510	-0	50000	0	06167		CAL CW+3
04511	0	77100	0	00013		ARS 11

COMPILE SXD 7...0,4

EXAMINE OP2(S(I))32

0...

1... FLO\*\*FLO

EXAMINE OP1(S(I))32 TO CHECK  
FOR MIXED EXPONENTIAL EXPRESSION  
ERROR FIX PT BASE, FLOAT EXP.

EXAMINE OP1(S(I))32

0...FX\*\*FX

1... FL\*\*FX

COMPILE TSX FXFX/FLEX/FLFL,4

COMPILE FLOW TRACE INFO AND LXD 7(.4

ADDRESS COMPILE SYM1(S(I))

COMPILE CLA SYM1(S(I))

EXAMINE OP2(S(I))35

0...EXP STORED

1... EXP IN MQ

FN FUNCTION

UPDATE EIFNO

AND

SET FN SWITCH

KEEP 1C UPDATED FOR PENDING TIFGO ENTRY.

INITIALIZE STAIR TO 1

EXAMINE TAGJ(S(I)), J=2,...

NONSUBSCRIPTED

SUBSCRIPTED-IS THERE A GENERAL TAG

GENERAL TAG PRESENT

NO GENERAL TAG PRESENT,SO PLACE

RELATIVE ADDRESS IN OPJ(S(I))14-28 AND

4F15448

4F15449

4F15450

4F15451

4F15452

4F15453

4F15454

4F15455

4F15456

4F15457

4F15458

4F15459

4F15460

4F15461

4F15462

4F15463

4F15464

4F15465

4F15466

4F15467

4F15468

4F15469

4F15470

4F15471

4F15472

4F15473

4F15474

4F15475

4F15476

4F15482

4F15483

4F15484

4F15485

4F15486

4F15487

4F15488

4F15489

4F15490

4F15491

4F15492

4F15493

4F15494

4F15495

4F15496

4F15497

4F15498

4F15499

4F15500

4F15501

4F15502

4F15503

4F15504

4F15505

4F15506

```

04512 -0 50100 0 01474 ORA NGTBIT
04513 -0 60200 1 06651 ORS SCRIPL+1,A
04514 -0 53400 4 04577 CP5160 LXD STACTR,C
04515 -0 53400 2 04147 LXD CP5830,B
04516 1 00003 2 04517 CP5180 TXI CP5190,B,3
04517 3 77772 2 04552 CP5190 TXH CP5460,B,-6
04520 1 00001 4 04521 TXI CP5210,C,1
04521 1 77775 1 04501 CP5210 TXI CP5050,A,-3
04522 -0 50000 0 01566 CP5220 CAL L(PXD)
04523 0 60200 0 06165 SLW CW+1
04524 0 07400 2 05104 TSX COMP,B
04525 0 60000 0 06164 STZ CW
04526 0 07400 4 01731 TSX CIT00,C
04527 0 00000 0 01406 HTR L(0)
04530 0 00000 0 01535 HTR L(ARS)
04531 0 00000 0 01406 HTR L(0)
04532 0 00000 0 01466 HTR DEC18
04533 0 07400 4 01731 TSX CIT00,C
04534 0 00000 0 01406 HTR L(0)
04535 0 00000 0 01532 HTR L(ADD)
04536 0 00000 0 01511 HTR PROCTR
04537 0 00000 0 01521 HTR DECM12
04540 -0 50000 0 01571 CAL L(STA)
04541 0 60200 0 06165 SLW CW+1
04542 -0 50000 0 00030 CAL EIFNO
04543 -0 32000 0 01527 ANA MASK1
04544 0 60200 0 06166 SLW CW+2
04545 -0 53400 4 04577 LXD STACTR,C
04546 -0 75400 4 00000 PXD 0,C
04547 0 60200 0 06167 SLW CW+3
04550 0 07400 2 05104 TSX COMP,B
04551 1 00000 0 04514 TXI CP5160,0,0
04552 -0 53400 1 01117 CP5460 LXD 3QBAR,A
04553 -0 50000 0 01575 CAL L(SXD)
04554 0 60200 0 06165 SLW CW+1
04555 -0 50000 0 01505 CAL XI
04556 0 60200 0 06166 SLW CW+2
04557 -0 50000 0 01412 CAL L(4)
04560 0 60200 0 06167 SLW CW+3
04561 0 07400 2 05104 TSX COMP,B
04562 -0 50000 0 00030 CAL EIFNO
04563 -0 32000 0 01527 ANA MASK1
04564 0 60200 0 06164 SLW CW
04565 -0 50000 0 01602 CAL L(TSX)
04566 0 60200 0 06165 SLW CW+1
04567 -0 50000 1 06652 CAL SCRIPL+2,A
04570 0 60200 0 06166 SLW CW+2
04571 0 07400 2 05104 TSX COMP,B
04572 0 60000 0 06164 STZ CW
04573 1 77775 1 04574 TXI CP5680,A,-3
04574 0 50000 1 06650 CP5680 CLA SCRIPL,A
04575 0 12000 0 04600 TPL CP5700
04576 0 07400 4 05112 TSX AC0000,C
04577 1 00000 0 04607 STACTR TXI CP5720,0,0

```

SET OPJ(S(I))10=1 FROM NGTBIT

FINISHED WITH PRELUDE,IF ANY  
NOT FINISHED-STAIK=STAIK+1  
GO ON TO NEXT ARGUMENT

COMPILE PXD SYMJ(S(I)), TAGJ(S(I))  
RESET CW  
COMPILE ARS 18

COMPILE ADD \*-2

COMPILE STA IFN+STAIK  
GO ON TO NEXT ARGUMENT,IF ANY

COMPILE SXD 7,4

COMPILE TSX SYM1(S(I)),4  
RESET CW  
POSITION XA TO SYM2(S(I))

NONSUBSCRIPTED

```

4F15507
4F15508
4F15509
4F15510
4F15511
4F15512
4F15513
4F15514
4F15515
4F15516
4F15517
4F15518
4F15519
4F15520
4F15521
4F15522
4F15523
4F15524
4F15525
4F15526
4F15527
4F15528
4F15529
4F15530
4F15531
4F15532
4F15533
4F15534
4F15535
4F15536
4F15537
4F15538
4F15539
4F15540
4F15541
4F15542
4F15543
4F15544
4F15545
4F15546
4F15547
4F15548
4F15549
4F15550
4F15551
4F15552
4F15553
4F15554
4F15555
4F15556
4F15557
4F15558
4F15559
4F15560

```

04600	0	56000	1	06651	CP5700	LDQ	SCRIP1+1,A
04601	-0	76300	0	00013		LGL	11
04602	0	76000	0	00001		LBT	
04603	0	56000	0	01406		LDQ	L(0)
04604	-0	60000	0	06167		STQ	CW+3
04605	-0	50000	1	06652		CAL	SCRIP1+2,A
04606	0	60200	0	06166		SLW	CW+2
04607	0	07400	2	05104	CP5720	TSX	COMP,B
04610	-0	53400	2	03607		LXD	CP0400,B
04611	1	00003	2	04612		TXI	CP5750,B,3
04612	3	77772	2	04615	CP5750	TXH	CP5780,B,-6
04613	-0	63400	2	03607		SXD	CP0400,B
04614	1	77775	1	04574		TXI	CP5680,A,-3
04615	0	07400	4	03401	CP5780	TSX	FLTR00,4
04616	0	00000	0	01406		HTR	L(0)
04617	0	00000	0	01561		HTR	L(LXD)
04620	0	00000	0	01505		HTR	XI
04621	0	00000	0	01412		HTR	L(4)
04622	-0	53400	1	01117	ES0000	LXD	3QBAR,A
04623	-0	76000	0	00141		SLT	1
04624	0	02000	0	03554		TRA	CP0130
04625	-0	50000	1	06650		CAL	SCRIP1,A
04626	-0	32000	0	01452		ANA	MASK2
04627	0	10000	0	04642		TZE	ES0160
04630	0	50000	0	01120		CLA	ARERAS
04631	0	60100	0	06166		STO	CW+2
04632	0	50000	0	01363		CLA	PHI(1)
04633	0	60100	0	06167		STO	CW+3
04634	0	50000	0	01573		CLA	L(STQ)
04635	-0	76000	0	00142		SLT	2
04636	0	50000	0	01572		CLA	L(STO)
04637	0	60100	0	06165		STO	CW+1
04640	0	07400	2	05104		TSX	COMP,B
04641	0	02000	0	03554		TRA	CP0130
04642	0	56000	0	01356	ES0160	LDQ	LEFT+2
04643	-0	76300	0	00014		LGL	12
04644	0	34000	0	01450		CAS	IFSYM
04645	0	02000	0	04647		TRA	ES0200
04646	0	02000	0	05041		TRA	ES1500
04647	0	34000	0	01451	ES0200	CAS	CALLER
04650	0	02000	0	04652		TRA	ES0210
04651	0	02000	0	05044		TRA	ES1520
04652	0	34000	0	01447	ES0210	CAS	SAPSYM
04653	0	02000	0	04655		TRA	ES0220
04654	0	02000	0	05100		TRA	ES1710
04655	0	77100	0	00006	ES0220	ARS	6
04656	-0	53400	4	01122		LXD	ARGCTR,C
04657	3	00000	4	05016		TXH	ES1300,C,0
04660	0	34000	0	01423		CAS	L(H)
04661	0	34000	0	01425		CAS	L(0)
04662	0	02000	0	04750		TRA	ES0300
04663	0	02000	0	04750		TRA	ES0300
04664	-0	76000	0	00144		SLT	4
04665	0	02000	0	04703		TRA	ES0870

SUBSCRIPTED

GENERAL TAG PRESENT  
NO GENERAL TAG PRESENT

COMPILE TSX SYMJ(S(I)) , J=2,...

FINISHED SCANNING

COMPILE FLOW TRACE INFO AND LXD 7(,4

-3Q TO XA

GO TO NEXT SEGMENT

S(I) NOT = S(0)

COMPILE STO/STQ 1... TYPE NO + PHI(1)  
GO TO NEXT SEGMENT  
S(I)=S(0)

IS THIS AN IF STATEMENT

IS THIS A CALL STATEMENT

IS THIS A FUNCTION STATEMENT  
YES  
NOT A FUNCTION STATEMENT

4F15561  
4F15562  
4F15563  
4F15564  
4F15565  
4F15566  
4F15567  
4F15568  
4F15569  
4F15570  
4F15571  
4F15572  
4F15573  
4F15574  
4F15575  
4F15576  
4F15577  
4F15578  
4F15579  
4F15580  
4F15581  
4F15582  
4F15583  
4F15584  
4F15585  
4F15586  
4F15587  
4F15588  
4F15589  
4F15590  
4F15591  
4F15592  
4F15593  
4F15594  
4F15595  
4F15596  
4F15597  
4F15598  
4F15599  
4F15600  
4F15601  
4F15602  
4F15603  
4F15604  
4F15605  
4F15606  
4F15607  
4F15608  
4F15609  
4F15610  
4F15611  
4F15612  
4F15613  
4F15614

04666	0	50000	0	01573	ES0710	CLA L(STQ)
04667	-0	76000	0	00142		SLT 2
04670	0	50000	0	01572	ES0730	CLA L(STO)
04671	0	60100	0	06165		STO CW+1
04672	0	50000	0	01354		CLA LEFT
04673	0	60100	0	06170		STO TAGWRD
04674	0	50000	0	01355		CLA LEFT+1
04675	0	60100	0	06171		STO OPWORD
04676	0	50000	0	01356		CLA LEFT+2
04677	0	60100	0	06172		STO SYMWRD
04700	0	07400	4	05120		TSX ACO060,C
04701	0	07400	2	05104		TSX COMP,B
04702	0	02000	0	05064		TRA ES1590
04703	-0	76000	0	00142	ES0870	SLT 2
04704	0	02000	0	04716		TRA ES0990
04705	0	50000	0	01573		CLA L(STQ)
04706	0	60100	0	06165		STO CW+1
04707	0	50000	0	01505		CLA X(
04710	0	60100	0	06166		STO CW+2
04711	0	60000	0	06167		STZ CW+3
04712	0	07400	2	05104		TSX COMP,B
04713	0	50000	0	01541		CLA L(CLA)
04714	0	60100	0	06165		STO CW+1
04715	0	07400	2	05104		TSX COMP,B
04716	0	07400	4	01731	ES0990	TSX CIT00,C
04717	0	00000	0	01406		HTR L(0)
04720	0	00000	0	01603		HTR L(UFA)
04721	0	00000	0	01504		HTR 0(
04722	0	00000	0	01406		HTR L(0)
04723	0	07400	4	01731		TSX CIT00,C
04724	0	00000	0	01406		HTR L(0)
04725	0	00000	0	01560		HTR L(LRS)
04726	0	00000	0	01406		HTR L(0)
04727	0	00000	0	01406		HTR L(0)
04730	0	07400	4	01731		TSX CIT00,C
04731	0	00000	0	01406		HTR L(0)
04732	0	00000	0	01534		HTR L(ANA)
04733	0	00000	0	01504		HTR 0(
04734	0	00000	0	01454		HTR 2E18
04735	0	07400	4	01731		TSX CIT00,C
04736	0	00000	0	01406		HTR L(0)
04737	0	00000	0	01557		HTR L(LLS)
04740	0	00000	0	01406		HTR L(0)
04741	0	00000	0	01406		HTR L(0)
04742	0	07400	4	01731		TSX CIT00,C
04743	0	00000	0	01406		HTR L(0)
04744	0	00000	0	01533		HTR L(ALS)
04745	0	00000	0	01406		HTR L(0)
04746	0	00000	0	01466		HTR DEC18
04747	0	02000	0	05004		TRA ES0610
04750	-0	76000	0	00144	ES0300	SLT 4
04751	0	02000	0	04666		TRA ES0710
04752	-0	76000	0	00142	ES0320	SLT 2
04753	0	02000	0	04765		TRA ES0440

FX(FLO) PT ON LEFT, FX(FLO) PT ON RIGHT

ADDRESS COMPILE VARIABLE ON LEFT  
 COMPILE STO/STQ LEFT+2  
 EXIT TO FETCH STATE A  
 FX PT ON LEFT, FLO PT ON RIGHT

RESULT ON RIGHT APPEARS IN MQ

COMPILE STQ 700000

COMPILE CLA 700000  
 COMPILE FIXING INSTRUCTIONS, WHEN  
 RESULT ON RIGHT IS IN ACC.

FLO PT ON LEFT, FX PT ON RIGHT

4F15615  
 4F15616  
 4F15617  
 4F15618  
 4F15619  
 4F15620  
 4F15621  
 4F15622  
 4F15623  
 4F15624  
 4F15625  
 4F15626  
 4F15627  
 4F15628  
 4F15629  
 4F15630  
 4F15631  
 4F15632  
 4F15633  
 4F15634  
 4F15635  
 4F15636  
 4F15637  
 4F15638  
 4F15639  
 4F15640  
 4F15641  
 4F15642  
 4F15643  
 4F15644  
 4F15645  
 4F15646  
 4F15647  
 4F15648  
 4F15649  
 4F15650  
 4F15651  
 4F15652  
 4F15653  
 4F15654  
 4F15655  
 4F15656  
 4F15657  
 4F15658  
 4F15659  
 4F15660  
 4F15661  
 4F15662  
 4F15663  
 4F15664  
 4F15665  
 4F15666  
 4F15667  
 4F15668



04754	0	50000	0	01573		CLA L(STQ)
04755	0	60100	0	06165		STO CW+1
04756	0	50000	0	01505		CLA XI
04757	0	60100	0	06166		STO CW+2
04760	0	60000	0	06167		STZ CW+3
04761	0	07400	2	05104		TSX COMP,B
04762	0	50000	0	01541		CLA L(CLA)
04763	0	60100	0	06165		STO CW+1
04764	0	07400	2	05104		TSX COMP,B
04765	0	07400	4	01731	ES0440	TSX CIT00,C
04766	0	00000	0	01406		HTR L(0)
04767	0	00000	0	01560		HTR L(LRS)
04770	0	00000	0	01406		HTR L(0)
04771	0	00000	0	01466		HTR DEC18
04772	0	07400	4	01731		TSX CIT00,C
04773	0	00000	0	01406		HTR L(0)
04774	0	00000	0	01564		HTR L(ORA)
04775	0	00000	0	01504		HTR 0(
04776	0	00000	0	01406		HTR L(0)
04777	0	07400	4	01731		TSX CIT00,C
05000	0	00000	0	01406		HTR L(0)
05001	0	00000	0	01550		HTR L(FAD)
05002	0	00000	0	01504		HTR 0(
05003	0	00000	0	01406		HTR L(0)
05004	-0	53400	4	01122	ES0610	LXD ARGCTR,C
05005	-3	00000	4	04670		TXL ES0730,C,0
05006	0	50000	0	01601	ES0630	CLA L(TRA)
05007	0	60100	0	06165		STO CW+1
05010	0	60000	0	06166		STZ CW+2
05011	-0	50000	0	01454		CAL 2E18
05012	-0	50100	0	01412		ORA L(4)
05013	0	60200	0	06167		SLW CW+3
05014	0	07400	2	05104		TSX COMP,B
05015	0	02000	0	05064		TRA ES1590
05016	0	40200	0	01433	ES1300	SUB L(X)
05017	0	10000	0	05023		TZE ES1360
05020	-0	76000	0	00144		SLT 4
05021	0	02000	0	05025		TRA ES1380
05022	0	02000	0	04752		TRA ES0320
05023	-0	76000	0	00144	ES1360	SLT 4
05024	0	02000	0	04703		TRA ES0870
05025	-0	76000	0	00142	ES1380	SLT 2
05026	0	02000	0	05006		TRA ES0630
05027	0	50000	0	01573		CLA L(STQ)
05030	0	60100	0	06165		STO CW+1
05031	0	50000	0	01505		CLA XI
05032	0	60100	0	06166		STO CW+2
05033	0	60000	0	06167		STZ CW+3
05034	0	07400	2	05104		TSX COMP,B
05035	0	50000	0	01541		CLA L(CLA)
05036	0	60100	0	06165		STO CW+1
05037	0	07400	2	05104		TSX COMP,B
05040	0	02000	0	05006		TRA ES0630
05041	0	07400	1	03321	ES1500	TSX TET00,1

RESULT ON RIGHT APPEARS IN MQ

COMPILE STQ 700000

COMPILE CLA 700000  
COMPILE FLOATING INSTRUCTIONS, WHEN  
RESULT ON RIGHT IS IN ACC

IS THIS A FUNCTION STATEMENT  
NO  
YES

COMPILE TRA 1,4  
EXIT TO FETCH STATE A

COMPILE STQ 700000

COMPILE CLA 700000

\* GO TO PROGRAM TET TO ENTER 1C,1C+1

4F15669  
4F15670  
4F15671  
4F15672  
4F15673  
4F15674  
4F15675  
4F15676  
4F15677  
4F15678  
4F15679  
4F15680  
4F15681  
4F15682  
4F15683  
4F15684  
4F15685  
4F15686  
4F15687  
4F15688  
4F15689  
4F15690  
4F15691  
4F15692  
4F15693  
4F15694  
4F15695  
4F15696  
4F15697  
4F15698  
4F15699  
4F15700  
4F15701  
4F15702  
4F15703  
4F15704  
4F15705  
4F15706  
4F15707  
4F15708  
4F15709  
4F15710  
4F15711  
4F15712  
4F15713  
4F15714  
4F15715  
4F15716  
4F15717  
4F15718  
4F15719  
4F15720  
4F15721  
4F15722

05042	0	00000	0	00002	PZE 2
05043	0	02000	0	05050	TRA ES1530
05044	-0	53400	4	00030	ES1520 LXD EIFNO,4
05045	-0	63400	4	01123	SXD CALLNM,4
05046	0	07400	1	03321	TSX TET00,1
05047	0	00000	0	00020	16
05050	-0	76000	0	00142	ES1530 SLT 2
05051	0	02000	0	05064	TRA ES1590
05052	0	07400	4	01731	TSX CIT00,C
05053	0	00000	0	01406	L(0)
05054	0	00000	0	01573	L(STQ)
05055	0	00000	0	01505	X(
05056	0	00000	0	01406	L(0)
05057	0	07400	4	01731	TSX CIT00,4
05060	0	00000	0	01406	L(0)
05061	0	00000	0	01541	L(CLA)
05062	0	00000	0	01505	X(
05063	0	00000	0	01406	L(0)
05064	0	50000	0	06160	ES1590 CLA FNSW
05065	0	10000	0	02402	TZE MTR000
05066	0	50000	0	01151	CLA F-1
05067	0	40200	0	01477	SUB 5BLANS
05070	0	10000	0	02402	TZE MTR000
05071	0	50200	0	00030	CLS EIFNO
05072	0	60100	0	00030	STO EIFNO
05073	0	07400	1	03321	TSX TET00,A
05074	0	00000	0	00000	HTR 0
05075	0	50200	0	00030	CLS EIFNO
05076	0	60100	0	00030	STO EIFNO
05077	0	02000	0	02402	TRA MTR000
05100	-0	53400	2	00637	ES1710 LXD BBOX,B
05101	0	50000	0	01362	CLA OPNWRD
05102	0	60100	2	00635	STO CIB-3,B
05103	0	02000	0	02402	TRA MTR000
05104	0	07400	4	01731	COMP TSX CIT00,C
05105	0	00000	0	06164	HTR CW
05106	0	00000	0	06165	HTR CW+1
05107	0	00000	0	06166	HTR CW+2
05110	0	00000	0	06167	HTR CW+3
05111	0	02000	2	00001	TRA 1,B
05112	0	50000	1	06650	AC0000 CLA SCRIPL,A
05113	0	60100	0	06170	STO TAGWRD
05114	0	50000	1	06651	CLA SCRIPL+1,A
05115	0	60100	0	06171	STO OPWORD
05116	0	50000	1	06652	CLA SCRIPL+2,A
05117	0	60100	0	06172	STO SYMWRD
05120	-0	50000	0	06170	AC0060 CAL TAGWRD
05121	-0	32000	0	01527	ANA MASK1
05122	-0	76000	0	00001	PBT
05123	0	02000	0	05204	TRA AC0540
05124	-0	75400	0	00000	PXD 0,0
05125	0	56000	0	06172	LDQ SYMWRD

INTO TIFGO TABLE (TABLE 2).

PREPARE ENTRY FOR TABLE OF CALL FIRST AND  
LAST IFN NUMBERS.

EXIT TO FETCH STATE A  
COMPILE LLS 37

EXTRACT TAGS IN ACC.

NON-SUBSCRIPTED SYMBOL

4F15723  
4F15724  
4F15725  
4F15726  
4F15727  
4F15728  
4F15729  
4F15730  
4F15731  
4F15732  
4F15733  
4F15734  
4F15735  
4F15736  
4F15737  
4F15738  
4F15739  
4F15740  
4F15741  
4F15742  
4F15743  
4F15744  
4F15745  
4F15746  
4F15747  
4F15748  
4F15749  
4F15750  
4F15751  
4F15752  
4F15753  
4F15754  
4F15755  
4F15756  
4F15757  
4F15758  
4F15759  
4F15760  
4F15761  
4F15762  
4F15763  
4F15764  
4F15765  
4F15766  
4F15767  
4F15768  
4F15769  
4F15770  
4F15771  
4F15772  
4F15773  
4F15774  
4F15775  
4F15776

05126	-0	76300	0	00001	LGL 1
05127	0	76000	0	00001	LBT
05130	0	16200	0	05175	TQP AC0460
05131	-0	76300	0	00013	LGL 11
05132	0	40200	0	01444	SUB L(A())
05133	0	10000	0	05170	TZE AC0410
05134	0	40000	0	01444	ADD L(A())
05135	0	40200	0	01446	SUB L(I())
05136	0	10000	0	05166	TZE AC0390
05137	0	40000	0	01446	ADD L(I())
05140	0	40200	0	01445	SUB L(H())
05141	0	10000	0	05164	TZE AC0350
05142	0	56000	0	06171	LDQ OPWORD
05143	-0	76300	0	00015	LGL 13
05144	0	16200	0	05161	TQP AC0340
05145	0	76300	0	00017	LLS 15
05146	0	76000	0	00006	COM
05147	0	40200	0	01407	SUB L(1)
05150	0	73400	2	00000	PAX 0,B
05151	-0	75400	2	00000	PXD 0,B
05152	0	60200	0	06167	SLW CW+3
05153	-0	53400	2	00470	LXD BK,B
05154	-0	50000	2	00470	CAL FORSUB-1,B
05155	-0	32000	0	01452	ANA MASK2
05156	-0	50100	0	01503	ORA P()
05157	0	60200	0	06166	AC0320 SLW CW+2
05160	0	02000	4	00001	TRA 1,C
05161	0	60000	0	06167	AC0340 STZ CW+3
05162	-0	50000	0	06172	CAL SYMWRD
05163	0	02000	0	05157	TRA AC0320
05164	-0	50000	0	01522	AC0350 CAL H()
05165	0	02000	0	05171	TRA AC0420
05166	0	50000	0	01501	AC0390 CLA I()
05167	0	02000	0	05171	TRA AC0420
05170	0	50000	0	01502	AC0410 CLA A()
05171	0	60100	0	06166	AC0420 STO CW+2
05172	-0	77300	0	00006	RQL 6
05173	-0	60000	0	06167	STQ CW+3
05174	0	02000	4	00001	TRA 1,C
05175	-0	76300	0	00043	AC0460 LGL 35
05176	0	73400	2	00000	TDRADD PAX 0,B
05177	-0	50000	2	06174	CAL CPBETA,B
05200	-0	32000	0	01527	ANA MASK1
05201	0	60200	0	06167	SLW CW+3
05202	-0	50000	0	01120	CAL ARERAS
05203	0	02000	0	05157	TRA AC0320
05204	0	60200	0	06170	AC0540 SLW TAGWRD
05205	0	56000	0	06170	LDQ TAGWRD
05206	-0	75400	0	00000	PXD 0
05207	-0	76300	0	00014	LGL 12
05210	0	60200	0	06167	SLW CW+3
05211	0	16200	0	05214	TQP **3
05212	0	60000	0	06167	STZ CW+3
05213	-0	50000	0	01454	CAL 2E18

SYMBOL IS SOME S(K)  
 NON-SUBSCRIPTED EX/INTERNAL VARIABLE  
 IS THIS A FLO PT CONSTANT  
 YES  
 NO  
 IS THIS A FIX PT CONSTANT  
 YES  
 NO  
 IS THIS A HOLLERITH FIELD  
 YES  
 NON-SUBSCRIPTED EXTERNAL VARIABLE  
 IS THIS A FREE VARIABLE  
 NO  
 YES

STORE ARGUMENT BUFFER RELATIVE ADDRESS

EXTRACT FUNCTION STATEMENT TYPE

RETURN  
 NON-SUBSCRIPTED, REAL VARIABLE

FIX PT INTERNAL VARIABLE

FLO PT INTERNAL VARIABLE

RETURN  
 SYMBOL IS SOME S(K)

EXTRACT PHI(K)

SUBSCRIPTED VARIABLE

CLEAR AC.  
 I-TAU TAGS TO AC.  
 STORE FOR NEXT CIT ENTRY.

REPLACE NULL TAG.

4F15777  
 4F15778  
 4F15779  
 4F15780  
 4F15781  
 4F15782  
 4F15783  
 4F15784  
 4F15785  
 4F15786  
 4F15787  
 4F15788  
 4F15789  
 4F15790  
 4F15791  
 4F15792  
 4F15793  
 4F15794  
 4F15795  
 4F15796  
 4F15797  
 4F15798  
 4F15799  
 4F15800  
 4F15801  
 4F15802  
 4F15803  
 4F15804  
 4F15805  
 4F15806  
 4F15807  
 4F15808  
 4F15809  
 4F15810  
 4F15811  
 4F15812  
 4F15813  
 4F15814  
 4F15815  
 4F15816  
 4F15817  
 4F15818  
 4F15819  
 4F15820  
 4F15821  
 4F15822  
 4F15823  
 4F15824  
 4F15825  
 4F15826  
 4F15827  
 4F15828  
 4F15829  
 4F15830

05214 0 60200 0 06173 SLW TAGPRT  
 05215 -0 76300 0 00001 LGL 1  
 05216 -0 75400 0 00000 PXD ,0  
 05217 -0 76300 0 00010 LGL 8  
 05220 0 76700 0 00001 ALS 1  
 05221 0 40100 0 00446 ADM SIG1IX-2  
 05222 0 62100 0 05223 STA SDRADD  
 05223 -0 75400 0 00000 SDRADD PXD \*\*,0  
 05224 0 76200 0 00302 RDR 2  
 05225 0 46000 0 05223 LDA SDRADD  
 05226 -0 70000 0 02365 CAD DUMP  
 05227 0 76000 0 00006 COM  
 05230 -0 70000 0 02365 CAD DUMP  
 05231 0 76000 0 00006 COM  
 05232 0 10000 0 05234 TZE \*+2  
 05233 0 07400 4 03400 TSX DIAG,4  
 05234 -0 50000 0 02365 CAL DUMP  
 05235 -0 60200 0 06167 ORS CW+3  
 05236 0 50000 0 06172 CLA SYMWRD  
 05237 0 60100 0 06166 STO CW+2  
 05240 0 02000 4 00001 TRA 1,4

SAVE FOR LATER USE.  
 CLEAR AC.  
 FORM TWICE SIGMA TAG.

FORM BASE OF TABLE + SIGMA TAG.

CHECK SUM TEST.  
 ERROR SIGMA1 CKSUM FAILS  
 ADD RELATIVE ADDRESS TO I-TAU TAG.  
 MOVE VARIABLE NAME FOR NEXT CIT ENTRY.  
 RETURN TO CALLER

COMPILE FLOW TRACE INFORMATION AND THEN  
 COMPILE LXD 7(ITYPE =,4

05241 0 07400 4 03401 CP6000 TSX FLTR00,4  
 05242 0 00000 0 06164 CW  
 05243 0 00000 0 06165 CW+1  
 05244 0 00000 0 06166 CW+2  
 05245 0 00000 0 06167 CW+3  
 05246 0 02300 0 04622 TRA ES0000

05247 ENDDDR BSS 0

06160 ENDD ORG 3184  
 06160 FNSW BSS 1  
 06161 PICNTR BSS 1  
 06162 ARGORG BSS 1  
 06163 XRSAVE BSS 1  
 06164 CW BSS 4  
 06170 TAGWRD BSS 1  
 06171 OPWORD BSS 1  
 06172 SYMWRD BSS 1  
 06173 TAGPRT BSS 1  
 06174 CPBETA BSS 300  
 06650 SCRIPL BSS 600

END OF ARITHMETIC / STATE D.

SYNONYMS USED BY SECTION ONE.

01100 1E SYN ERASE  
 00004 1T0CS SYN 4  
 01101 2E SYN ERASE+1  
 01501 2P SYN II  
 01531 360NES SYN ALL1  
 01102 3E SYN ERASE+2  
 01117 3QBAR SYN 3LBAR

COMMON WORKING STORAGE.  
 ENTRY TO SYSTEM TAPE MONITOR.  
 COMMON WORKING STORAGE.  
 COMMON WORKING STORAGE.

4F15831  
 4F15832  
 4F15833  
 4F15834  
 4F15835  
 4F15836  
 4F15837  
 4F15838  
 4F15839  
 4F15840  
 4F15841  
 4F15842  
 4F15843  
 4F15844  
 4F15845  
 4F15846  
 4F15847  
 4F15848  
 4F15849  
 4F15850  
 4F15851  
 4F158511  
 4F158512  
 4F158513  
 4F158514  
 4F158515  
 4F158516  
 4F158517  
 \*4F15852  
 4F158525  
 4F15853  
 4F15854  
 4F15855  
 4F15856  
 4F15857  
 4F15858  
 4F15859  
 4F15860  
 4F15861  
 4F15862  
 4F15863  
 4F15864  
 4F15865  
 4F15866  
 \*4F15867  
 4F15868  
 4F15869  
 4F15870  
 4F15871  
 4F15872  
 4F15873  
 4F15874  
 4F15875  
 4F15876

COMMON WORKING STORAGE.

ERASABLE STORAGE.  
COMPILED INSTRUCTION TAPE.  
ERASABLE STORAGE.  
ERASABLE STORAGE.

COMMON WORKING STORAGE.

COMMON WORKING STORAGE.

```

DRUM ORIGIN FOR STATE A.
DRUM ORIGIN FOR STATE B.
DRUM ORIGIN FOR STATE C.
DRUM ORIGIN FOR STATE D.
DRUM TABLE ORIGIN -DRTABS,DIM,SR.
DRUM TABLE ORIGIN -DRTABS,DIM,SR.
DRUM TABLE ORIGIN -DRTABS,DIM,SR.
COMMON WORKING STORAGE.

```

```
COMMON WORKING STORAGE.  
COMMON WORKING STORAGE.  
ERASABLE STORAGE.  
NUMBER OF DRUM READING ATTEMPTS.  
COMMON WORKING STORAGE.  
COMMON WORKING STORAGE.  
COMMON WORKING STORAGE.  
COMMON WORKING STORAGE.  
COMMON WORKING STORAGE.  
COMMON WORKING STORAGE.  
COMMON WORKING STORAGE.  
COMMON WORKING STORAGE.  
COMMON WORKING STORAGE.  
DRUM TABLE ORIGIN -DRTABS.  
DRUM TABLE ORIGIN -DRTABS.
```

**COMMON WORKING STORAGE.**

4F15877  
4F15878  
4F15879  
4F15880  
4F15881  
4F15882  
4F15883  
4F15884  
4F15885  
4F15886  
4F15887  
4F15888  
4F15889  
4F15890  
4F15891  
4F15892  
4F15893  
4F15894  
4F15895  
4F15896  
4F15897  
4F15898  
4F15899  
4F15900  
4F15901  
4F15902  
4F15903  
4F15904  
4F15905  
4F15906  
4F15907  
4F15908  
4F15909  
4F15910  
4F15911  
4F15912  
4F15913  
4F15914  
4F15915  
4F15916  
4F15917  
4F15918  
4F15919  
4F15920  
4F15921  
4F15922  
4F15923  
4F15924  
4F15925  
4F15926  
4F15927  
4F15928  
4F15929  
4F15930

01373	L(10)	SYN TEN	4F15931
01400	L(11)	SYN EQUAL	4F15932
01420	L(12)	SYN MINUS	4F15933
01454	L(1D)	SYN 2E18	4F15934
01374	L(63)	SYN ENDMK	4F15935
03440	MEMORG	SYN 1824	4F15936
01452	MSK	SYN MASK2	4F15937
02402	MTR000	SYN STATEA	4F15938
02430	MTR300	SYN MTR3	4F15942
01103	N	SYN ERASE+3	4F15943
01404	PLUS	SYN 122	4F15945
01566	PXD	SYN L(PXD)	4F15946
01100	RAXR4	SYN ERASE	4F15947
01226	SIGMA1	SYN 0662	4F15948
01101	SR6WRK	SYN ERASE+1	4F15949
01416	ST	SYN L(8)	4F15950
01571	STA	SYN L(STA)	4F15951
01104	STCKSM	SYN ERASE+4	4F15952
00224	TABTAP	SYN 148	4F15953
01453	TAG4	SYN 2E17	4F15954
00000	TAU1	SYN 0000	4F15955
00454	TAU2	SYN 0300	4F15956
01356	TAU3	SYN 0750	4F15957
01413	TERC	SYN L(5)	4F15958
01103	TETMQR	SYN ERASE+3	4F15959
01102	TETWRK	SYN ERASE+2	4F15960
01100	TETXR2	SYN ERASE	4F15961
01101	TETXR4	SYN ERASE+1	4F15962
01576	TIX	SYN L(TIX)	4F15963
01504	ZER	SYN 0	4F15964
00000	..	EQU 0	4F15965
		END OF SYNONYMS USED BY SECTION ONE.	4F15966
		*****	4F15967
		END OF SECTION ONE.	4F15968
			4F15969
			4F15970

A

00000

END

```

1
1
    REM 704 FORTRAN MASTER RECORD CARD / DIAGNOSTIC = F0200000.      4F1D0010
                                704 FORTRAN MASTER RECORD CARD / DIAGNOSTIC = F0200000.      4F1D0020
                                00000      ORG 0      4F1D0030
00000 0 13440 0 13440      PZE DIAG,,DIAG      4F1D0040
00001 0 00000 0 17777      PZE 8191      4F1D0050
                                704 FORTRAN TWO, SECTION ONE DIAGNOSTIC, RECORD F020.      4F1D0060
                                THIS RECORD IS CALLED IN FROM TAPE ONCE FOR EACH ERROR IN      4F1D0070
                                SECTION ONE AND ONCE AT THE END OF SECTION ONE.      4F1D0080
                                4F1D0090
                                4F1D0100
                                4F1D0110
                                4F1D0120
                                4F1D0130
                                4F1D0140
                                4F1D0150
                                4F1D0160
                                4F1D0170
                                4F1D0180
                                4F1D0190
                                4F1D0200
                                4F1D0210
                                4F1D0220
                                4F1D0230
                                4F1D0240
                                4F1D0250
                                4F1D0260
                                4F1D0270
                                4F1D0280
                                4F1D0290
                                4F1D0300
                                4F1D0310
                                4F1D0320
                                4F1D0330
                                4F1D0340
                                4F1D0350
                                4F1D0360
                                4F1D0370
                                4F1D0380
                                4F1D0390
                                4F1D0400
                                4F1D0410
                                4F1D0420
                                4F1D0430
                                4F1D0440
                                4F1D0450
                                4F1D0460
                                4F1D0470
                                4F1D0480
                                4F1D0490
                                4F1D0500
                                4F1D0510
                                4F1D0520

                                13440 DIAG      ORG 1824+4096      MOD 4K OR 8K MACHINE SIZE
                                00001 A      EQU 1
                                00002 B      EQU 2
                                00004 C      EQU 4
                                77777 EXITX EQU 32767
13440 3 00000 4 13543 EDIT TXH ERENT,C,0      IF IR4 IS ZERO THIS IS THE END OF SEC ONE.
13441 0 50000 0 00020      CLA 16      IF NON ZERO IT IS AN ERROR CALL.
13442 -0 32000 0 14033      ANA L(4)D      IF IT IS THE END OF SEC ONE WERE THERE ANY
13443 0 10000 0 00004      TZE 4      ERRORS DURING SECTION ONE ( INDICATED BY
13444 0 07400 4 14121      TSX PRINT,C
13445 0 14104 0 14067      HTR STOP,0,XCOM
13446 0 07400 4 14121      TSX PRINT,C
13447 0 14045 0 14044      PZE RESTR,0,RESTR+1      BIT IN WORD 20 OCTAL). IF THERE WERE NO
13450 0 53400 4 02367      LXA DCELL1,4      ERRORS GO TO SEC ONE PRIME. IF THERE WERE
13451 3 00000 4 13456      TXH SOURCE,4,0      GET INDICATOR OF SOURCE PROGRAM ERRORS.
13452 0 53400 4 14013      LXA L(8),4      TEST IF ANY OF ERROR WERE SOURCE.
13453 0 76400 0 00201      BST 1      NONE WERE, SO BACKSPACE TAPE 1 TO MACHINE
13454 2 00001 4 13453      TIX *-1,4,1      ERROR RECORD.
13455 0 02000 0 00004      TRA 4      NOW GO TO 1 TO CS FOR MACHINE ERROR RECORD.
13456 0 53400 4 14015 SOURCE LXA L(12),4      SOME SOURCE PROGRAM ERRORS, RECOMPILATION
13457 0 76400 0 00201      BST 1      MEANINGLESS. BACKSPACE TAPE 1 TO SOURCE
13460 2 00001 4 13457      TIX *-1,4,1      PROGRAM ERROR RECORD.
13461 0 02000 0 00004      TRA 4      NOW GO TO 1 TO CS FOR THIS RECORD.
                                13462      BSS 10      EXPANSION AREA. FOR PESSIMISM...
                                NUMBERS OF MACHINE ERROR CALL FROM SECTION ONE.
13474 000002000304      MACERR BCD 1002034
13475 000002000602      BCD 1002062
13476 000002020606      BCD 1002266
13477 000002040303      BCD 1002433
13500 000002040304      BCD 1002434
13501 000002040305      BCD 1002435
13502 000002040306      BCD 1002436
13503 000002050203      BCD 1002523
13504 000002050605      BCD 1002565
13505 000003020702      BCD 1003272
13506 000003050601      BCD 1003561
13507 000005070105      BCD 1005715
13510 000004030407      BCD 1004347
13511 000005020303      BCD 1005233
13512 000000050503      BCD 1000553
13513 000000050600      BCD 1000560
13514 000000050603      BCD 1000563
13515 000000050606      BCD 1000566
13516 000100050304      BCD 1010534

```

13517	000102070500		BCD 1012750			
	13520		BSS 18	MORE PESSIMISM...		
13542	0 00000 0 00024	COUNT	20			4F1D0540
						4F1D0550
						4F1D0560
						4F1D0570
						4F1D0580
						4F1D0590
13543	-0 75400 4 00000	ERENT	PXD 0,C			4F1D0600
13544	0 76000 0 00006		COM	CONSTRUCT OCTAL STOP		4F1D0610
13545	0 40000 0 14032		ADD L(1)D			4F1D0620
13546	-0 73400 2 00000		PDX 0,B			4F1D0630
13547	-0 75400 2 00000		PXD 0,B			4F1D0640
13550	0 76500 0 00043		LRS 35			4F1D0650
13551	-0 53400 2 14034		LXD L(6)D,B			4F1D0660
13552	0 76700 0 00003	ALS	ALS 3			4F1D0670
13553	-0 76300 0 00003		LGL 3			4F1D0680
13554	2 00001 2 13552		TIX ALS,B,1			4F1D0690
13555	0 60100 0 14047		STO NUMB			4F1D0700
13556	0 53400 1 14035		LXA L(0),1	SET TO SEARCH TABLE OF NUMBERS OF MACHINE		4F1D0710
13557	0 53400 2 13542		LXA COUNT,2	ERRORS.		4F1D0720
13560	0 34000 1 13474		CAS MACERR,1	COMPARE EACH ENTRY IN TABLE TO OCTAL		4F1D0730
13561	1 00001 1 13564		TXI **3,1,1	NUMBER IN AC.		4F1D0740
13562	0 02000 0 13566		TRA **4	EXIT IF FOUND.		4F1D0750
13563	1 00001 1 13564		TXI **1,1,1			4F1D0760
13564	2 00001 2 13560		TIX *-4,2,1	CONTINUE.		4F1D0770
13565	0 62100 0 02367		STA DCELL1	SET INDICATOR TO NON-ZERO FOR SOURCE ERROR		4F1D0780
13566	0 53400 3 14035		LXA L(0),3			4F1D0790
13567	0 50000 0 14037		CLA XXX	CONSTRUCT CALLING SEQUENCE WORD FOR		4F1D0800
13570	0 34000 1 14504	ONE	CAS TABLE,A	PRINTING COMMENT		4F1D0810
13571	0 02000 0 13573		TRA TWO			4F1D0820
13572	0 02000 0 13601		TRA FOUR			4F1D0830
13573	1 77777 1 13574	TWO	TXI THREE,A,-1			4F1D0840
13574	3 00000 1 13570	THREE	TXH ONE,A,0			4F1D0850
13575	0 50000 0 14047		CLA NUMB			4F1D0860
13576	0 60100 0 14104		STO XCOM			4F1D0870
13577	-0 50000 0 14046		CAL XKEY			4F1D0880
13600	0 02000 0 13632		TRA EIGHT			4F1D0890
13601	3 00000 2 13612	FOUR	TXH FIVE,B,0			4F1D0900
13602	0 40200 1 14505		SUB TABLE+1,A			4F1D0910
13603	0 10000 0 13627		TZE SEVEN			4F1D0920
13604	0 50000 0 14047		CLA NUMB			4F1D0930
13605	0 40200 1 14505		SUB TABLE+1,A			4F1D0940
13606	0 10000 0 13611		TZE NINE			4F1D0950
13607	0 50000 0 14037		CLA XXX			4F1D0960
13610	0 02000 0 13573		TRA TWO			4F1D0970
13611	1 77777 1 13612	NINE	TXI FIVE,A,-1			4F1D0980
13612	-0 75400 1 00000	FIVE	PXD 0,A			4F1D0990
13613	0 76000 0 00006		COM			4F1D1000
13614	0 40000 0 14032		ADD L(1)D			4F1D1010
13615	-0 73400 4 00000		PDX 0,C			4F1D1020
13616	-0 75400 4 00000		PXD 0,C			4F1D1030
13617	0 40000 0 14042		ADD TABAD			4F1D1040
13620	3 00000 2 13625		TXH SIX,B,0			4F1D1050
13621	0 77100 0 00022		ARS 18			
13622	0 60100 0 14050		STO KEY			
13623	0 50000 0 14037		CLA XXX			



13624	1	00001	2	13574		SIX	TXI THREE,B,1
13625	-0	50100	0	14050			ORA KEY
13626	0	02000	0	13632			TRA EIGHT
13627	0	50000	0	14047	SEVEN		CLA NUMB
13630	0	60100	0	14104			STO XCOM
13631	0	50000	0	14046			CLA XKEY
13632	0	60100	0	14025	EIGHT		STO COMM
13633	0	50000	0	01151			CLA F-1
13634	0	60100	0	01150			STO F-2
13635	0	50000	0	14045			CLA BLANK
13636	0	60100	0	01151			STO F-1
13637	-0	53400	1	14041			LXD L(X)D,A
13640	0	50000	0	14036			CLA ONES
13641	0	34000	1	01331	STA05		CAS F+111,A
13642	0	02000	0	13644			TRA STA10
13643	0	02000	0	13646			TRA STA20
13644	2	00001	1	13641	STA10		TIX STA05,A,1
13645	-0	53400	1	14035			LXD L(0),A
13646	-0	75400	1	00000	STA20		PXD 0,A
13647	0	60100	0	14051			STO SES
13650	C	50000	0	14041			CLA L(X)D
13651	0	40200	0	14051			SUB SES
13652	0	40000	0	14043			ADD FORG
13653	0	60100	0	14051			STO SES
13654	0	50000	0	14043			CLA FORG
13655	0	77100	0	00022			ARS 18
13656	-0	50100	0	14051			ORA SES
13657	0	60100	0	14023			STO STATE
13660	0	50000	0	00020			CLA 16
13661	-0	32000	0	14033			ANA L(4)D
13662	-0	10000	0	13673			TNZ PROG
13663	0	50000	0	14033			CLA L(4)D
13664	-0	60200	0	00020			ORS 16
13665	0	07400	4	14121			TSX PRINT,C
13666	0	14067	0	14052			HTR START,0,STOP
13667	0	76600	0	00361			WPR
13670	0	76600	0	00361			WPR
13671	0	76600	0	00361			WPR
13672	0	76600	0	00361			WPR
13673	0	07400	4	13742	PROG		TSX SETNBC,4
13674	0	07400	4	13746			TSX NNBC,4
13675	0	07400	4	13746			TSX NNBC,4
13676	0	40200	0	14014			SUB L(10)
13677	-0	10000	0	14022			TNZ EXIT
13700	0	07400	4	13742			TSX SETNBC,4
13701	0	07400	4	13746			TSX NNBC,4
13702	0	40200	0	14007			SUB L(X)
13703	-0	10000	0	13725			TNZ CALLBK
13704	0	50000	0	14001			CLA L(1)
13705	0	07400	4	13760			TSX REP,4
13706	0	07400	4	13746			TSX NNBC,4
13707	0	50000	0	14002			CLA L(F)
13710	0	07400	4	13760			TSX REP,4
13711	0	07400	4	13746			TSX NNBC,4

CONSTRUCT CALLING SEQUENCE WORD

WAS THERE A PREVIOUS ERROR CALL

NO, MAKE ERROR CALL INDICATION

AND PRINT HEADING

4F1D1060  
4F1D1070  
4F1D1080  
4F1D1090  
4F1D1100  
4F1D1110  
4F1D1120  
4F1D1130  
4F1D1140  
4F1D1150  
4F1D1160  
4F1D1170  
4F1D1180  
4F1D1190  
4F1D1200  
4F1D1210  
4F1D1220  
4F1D1230  
4F1D1240  
4F1D1250  
4F1D1260  
4F1D1270  
4F1D1280  
4F1D1290  
4F1D1300  
4F1D1310  
4F1D1320  
4F1D1330  
4F1D1340  
4F1D1350  
4F1D1360  
4F1D1370  
4F1D1380  
4F1D1390  
4F1D1400  
4F1D1410  
4F1D1420  
4F1D1430  
4F1D1440  
4F1D1450  
4F1D1460  
4F1D1470  
4F1D1480  
4F1D1490  
4F1D1500  
4F1D1510  
4F1D1520  
4F1D1530  
4F1D1540  
4F1D1550  
4F1D1560  
4F1D1570  
4F1D1580  
4F1D1590

13712	0	40200	0	14003	SUB	L(=)
13713	-0	10000	0	14022	TNZ	EXIT
13714	0	50000	0	14004	CLA	L(LP)
13715	0	07400	4	13760	TSX	REP,4
13716	-3	77622	1	14022	TXE	TXL EXIT,1,-110
13717	0	07400	4	13746	TSX	NNBC,4
13720	0	40200	0	14016	SUB	ENDM
13721	-0	10000	0	13716	TNZ	TXE
13722	0	50000	0	14005	CLA	L(RP)
13723	0	07400	4	13760	TSX	REP,4
13724	0	02000	0	14022	TRA	EXIT
13725	0	50000	0	14010	CALLBK	CLA L(C)
13726	0	07400	4	13760	TSX	REP,4
13727	0	07400	4	13746	TSX	NNBC,4
13730	0	50000	0	14011	CLA	L(A)
13731	0	07400	4	13760	TSX	REP,4
13732	0	07400	4	13746	TSX	NNBC,4
13733	0	50000	0	14012	CLA	L(L)
13734	0	07400	4	13760	TSX	REP,4
13735	2	00001	2	13737	TIX	SECL,2,1
13736	1	77777	1	13737	TXI	SECL,1,-1
13737	0	50000	0	14012	SECL	CLA L(L)
13740	0	07400	4	13760	TSX	REP,4
13741	0	02000	0	14022	TRA	EXIT
13742	-0	53400	1	13752	SETNBC	LXD TXI,1
13743	0	53400	2	13747	LXA	LGL,2
13744	0	56000	0	01152	LDQ	F
13745	0	02000	4	00001	TRA	1,4
13746	-0	75400	0	00000	NNBC	PXD
13747	-0	76300	0	00006	LGL	6
13750	2	00001	2	13754	TIX	CAS,2,1
13751	0	56000	1	01152	LDQ	F,1
13752	1	77777	1	13753	TXI	TXI TXI+1,1,-1
13753	0	53400	2	13747	LXA	LGL,2
13754	0	34000	0	14006	CAS	CAS BLANKX
13755	0	02000	4	00001	TRA	1,4
13756	0	02000	0	13746	TRA	NNBC
13757	0	02000	4	00001	TRA	1,4
13760	-0	60000	0	14017	REP	STQ ES1
13761	-0	63400	2	14020	SXD	ES2,2
13762	-0	63400	1	14021	SXD	ES3,1
13763	0	76500	0	00043	LRS	35
13764	-0	50000	0	14016	CAL	ENDM
13765	-3	00005	2	13767	TXL	TXL TXL+2,2,5
13766	1	00001	1	13771	TXI	TXL+4,1,1
13767	-0	76300	0	00006	LGL	6
13770	2	00001	2	13767	TIX	TIX TIX-1,2,1
13771	0	76000	0	00006	COM	
13772	0	32000	1	01151	ANS	F-1,1
13773	-0	76300	0	00044	LGL	36
13774	-0	60200	1	01151	ORS	F-1,1
13775	-0	53400	1	14021	LXD	ES3,1
13776	-0	53400	2	14020	LXD	ES2,2
13777	0	56000	0	14017	LDQ	ES1

CHANGE Z BACK TO C

CHANGE TEN BACK TO A

CHANGE EQUAL BACK TO FIRST L

ADJUST COUNTS FOR NEXT CHAR  
CHANGE BLANK BACK TO SECOND L

4F1D1600  
4F1D1610  
4F1D1620  
4F1D1630  
4F1D1640  
4F1D1650  
4F1D1660  
4F1D1670  
4F1D1680  
4F1D1690  
4F1D1700  
4F1D1710  
4F1D1720  
4F1D1730  
4F1D1740  
4F1D1750  
4F1D1760  
4F1D1770  
4F1D1780  
4F1D1790  
4F1D1800  
4F1D1810  
4F1D1820  
4F1D1830  
4F1D1840  
4F1D1850  
4F1D1860  
4F1D1870  
4F1D1880  
4F1D1890  
4F1D1900  
4F1D1910  
4F1D1920  
4F1D1930  
4F1D1940  
4F1D1950  
4F1D1960  
4F1D1970  
4F1D1980  
4F1D1990  
4F1D2000  
4F1D2010  
4F1D2020  
4F1D2030  
4F1D2040  
4F1D2050  
4F1D2060  
4F1D2070  
4F1D2080  
4F1D2090  
4F1D2100  
4F1D2110  
4F1D2120  
4F1D2130

```

14000 0 02000 4 00001 TRA 1,4
14001 000000000031 L(I) BCD 100000I
14002 000000000026 L(F) BCD 100000F
14003 000000000013 L(=) BCD 100000=
14004 000000000074 L(LP) BCD 100000(
14005 000000000034 L(RP) BCD 100000)
14006 000000000060 BLANKX BCD 100000
14007 000000000067 L(X) BCD 100000X
14010 000000000023 L(C) BCD 100000C
14011 000000000021 L(A) BCD 100000A
14012 000000000043 L(L) BCD 100000L
14013 0 00000 0 00010 L(8) 8
14014 +000000000012 L(10) OCT 12
14015 0 00000 0 00014 L(12) 12
14016 +000000000077 ENDM OCT 77
A 14017 0 00000 0 00000 ES1 HTR
A 14020 0 00000 0 00000 ES2 HTR
A 14021 0 00000 0 00000 ES3 HTR
A 14022 0 07400 4 14121 SECND TSX PRINT,C
A 14023 0 00000 0 00000 STATE HTR
A 14024 0 07400 4 14121 TSX PRINT,C
A 14025 0 00000 0 00000 COMM HTR
14026 0 76600 0 00361 WPR
14027 0 76600 0 00361 WPR
14030 0 76400 0 00201 BST BST 1
14031 0 02000 0 02402 TRA MON
14032 +0000001000000 L(1)D OCT 1000000
14033 +0000004000000 L(4)D OCT 4000000
14034 +0000006000000 L(6)D OCT 6000000
A 14035 0 00000 0 00000 L(0) HTR
14036 -3777777777777 ONES OCT 777777777777
14037 6767676767677 XXX BCD 1XXXXXX
14040 +0000000777777 HALT OCT 77777
14041 +0001610000000 L(X)D OCT 161000000
14042 0 14504 0 00000 TABAD HTR 0,0, TABLE
14043 0 01150 0 00000 FORG HTR 0,0,F-2
14044 0160606060606 RESTR BCD 11
14045 6060606060606 BLANK BCD 1
14046 0 14121 0 14104 XKEY HTR XCOM,0,XXCOM
A 14047 0 00000 0 00000 NUMB HTR
A 14050 0 00000 0 00000 KEY HTR
A 14051 0 00000 0 00000 SES HTR
14052 0160606060606 START BCD 71
14053 6060606060606
14054 6060606060606
14055 6060606060606
14056 6060606060606
14057 6060606060606
14060 6060606060606
14061 264651635121
14062 456024312127
14063 454662633123
14064 604751462751
14065 214460512562

```

PRINT STATEMENT

PRINT COMMENT

TAPE  
AND RETURN TO SEC ONE MONITOR

BCD 6FORTRAN DIAGNOSTIC PROGRAM RESULTS

4F1D2140  
4F1D2150  
4F1D2160  
4F1D2170  
4F1D2180  
4F1D2190  
4F1D2200  
4F1D2210  
4F1D2220  
4F1D2230  
4F1D2240  
4F1D2250  
4F1D2260  
4F1D2270  
4F1D2280  
4F1D2290  
4F1D2300  
4F1D2310  
4F1D2320  
4F1D2330  
4F1D2340  
4F1D2350  
4F1D2360  
4F1D2370  
4F1D2380  
4F1D2390  
4F1D2400  
4F1D2410  
4F1D2420  
4F1D2430  
4F1D2440  
4F1D2450  
4F1D2460  
4F1D2470  
4F1D2480  
4F1D2490  
4F1D2500  
4F1D2510  
4F1D2520  
4F1D2530  
4F1D2540  
4F1D2550  
4F1D2560

4F1D2570

	14066	644363626060				4F1D2580
	14067	006060606060	STOP	BCD 70		
	14070	606060606060				
	14071	606060606060				
	14072	606060606060				
	14073	606060606060				
	14074	606060606060				
	14075	606060606060				
	14076	254524604626		BCD 6END OF DIAGNOSTIC PROGRAM RESULTS		4F1D2590
	14077	602431212745				
	14100	466263312360				
	14101	475146275121				
	14102	446051256264				
	14103	436362606060				
A	14104	0 00000 0 00000	XCOM	HTR		4F1D2600
	14105	606060606060		BCD	THIS ERROR IS NOT LISTED IN THE DIAGNOSTIC PROGRAM ERR	4F1D2610
	14106	633031626025				
	14107	515146516031				
	14110	626045466360				
	14111	433162632524				
	14112	603145606330				
	14113	256024312127				
	14114	454662633123				
	14115	604751462751				
	14116	214460255151				
	14117	465160433162		BCD 2OR LIST.		4F1D2620
	14120	633360606060				
		14121	XXCOM	BSS 0		4F1D2630
		14121	PRINT	BSS 0		4F1D2640
	14121	0 50000 4 00001	RAN	CLA 1,4		4F1D2650
	14122	0 62100 0 14163		STA RNA		4F1D2660
	14123	0 77100 0 00022		ARS 18		4F1D2670
	14124	0 60100 0 14164		STO RNB		4F1D2680
	14125	-0 63400 4 14165		SXD RNC,4		4F1D2690
	14126	0 50000 0 14163	RN40	CLA RNA		4F1D2700
	14127	0 40000 0 14166		ADD RND		4F1D2710
	14130	0 34000 0 14164		CAS RNB		4F1D2720
	14131	0 76100 0 00000		NOP		4F1D2730
	14132	0 02000 0 14153		TRA RN50		4F1D2740
	14133	0 76700 0 00022		ALS 18		4F1D2750
	14134	0 40000 0 14163		ADD RNA		4F1D2760
	14135	0 60100 0 14137		STO RAN10		4F1D2770
	14136	0 07400 4 14170		TSX WOT,C		4F1D2780
A	14137	0 00000 0 00000	RAN10	HTR		4F1D2790
	14140	0 50000 0 14137		CLA RAN10		4F1D2800
	14141	0 77100 0 00022		ARS 18		4F1D2810
	14142	0 40200 0 14167		SUB RNE		4F1D2820
	14143	0 62100 0 14150		STA RN20		4F1D2830
	14144	0 40200 0 14167		SUB RNE		4F1D2840
	14145	0 62100 0 14151		STA RN30		4F1D2850
	14146	0 62100 0 14163		STA RNA		4F1D2860
	14147	0 50000 0 14402		CLA BLNKS		4F1D2870
A	14150	0 60100 0 00000	RN20	STO		4F1D2880
A	14151	0 60100 0 00000	RN30	STO		4F1D2890

	14152	0	02000	0	14126		TRA RN40		4F1D2900
	14153	0	50000	0	14164	RN50	CLA RNB		4F1D2910
	14154	0	76700	0	00022		ALS 18		4F1D2920
	14155	0	40000	0	14163		ADD RNA		4F1D2930
	14156	0	60100	0	14160		STO RN60		4F1D2940
	14157	0	07400	4	14170		TSX WOT,C		4F1D2950
A	14160	0	00000	0	00000	RN60	HTR		4F1D2960
	14161	-0	53400	4	14165		LXD RNC,C		4F1D2970
	14162	0	02000	4	00002		TRA 2,C		4F1D2980
A	14163	0	00000	0	00000	RNA	HTR		4F1D2990
A	14164	0	00000	0	00000	RNB	HTR		4F1D3000
A	14165	0	00000	0	00000	RNC	HTR		4F1D3010
	14166	0	00000	0	00024	RND	HTR 20		4F1D3020
	14167	0	00000	0	00001	RNE	HTR 1		4F1D3030
	14170	-0	63400	1	14340	WOT	SXD X1,1		4F1D3040
	14171	-0	63400	2	14346		SXD X2,2		4F1D3050
	14172	0	50000	4	00001		CLA 1,4	PRINT ROUTINE	4F1D3060
	14173	0	62100	0	14221		STA T5	X	4F1D3070
	14174	0	62200	0	14403		STD X4	X	4F1D3080
	14175	0	77100	0	00022		ARS 18	X	4F1D3090
	14176	0	40000	0	14403		ADD X4	X	4F1D3100
	14177	0	62100	0	14252		STA PR2	X	4F1D3110
	14200	0	62100	0	14277		STA CI9	X	4F1D3120
	14201	0	40200	4	00001		SUB 1,4	B-A+1 IN AC	4F1D3130
	14202	0	10000	4	00002		TZE 2,4		4F1D3140
	14203	-0	12000	4	00002		TMI 2,4		4F1D3150
	14204	-0	63400	4	14403		SXD X4,4		4F1D3160
	14205	0	73400	4	00013	L11	PAX 11,4		4F1D3170
	14206	-0	63400	4	14211		SXD PR6,4		4F1D3180
	14207	-0	50000	0	14353		CAL WP	INITIALIZE SWITCH	4F1D3190
	14210	0	60100	0	14353		STO WP	X	4F1D3200
TD	14211	3	00000	0	14212	PR6	TXH T4		4F1D3210
	14212	0	76600	0	00361	T4	WPR		4F1D3220
TD	14213	-3	00000	0	14217	Z2	TXL S3		4F1D3230
ATD	14214	-3	00000	0	00000	OZ2	TXL		4F1D3240
	14215	0	76000	0	00364	SP4	SPR 4		4F1D3250
TD	14216	-3	00000	0	14250		TXL RPR+2		4F1D3260
	14217	0	50200	0	14353	S3	CLS WP	SET SWITCH FOR MASKING	4F1D3270
	14220	0	60100	0	14353		STO WP	CHARACTER FROM TYPE WHEEL 1	4F1D3280
	14221	-0	50000	0	14221	T5	CAL *	OBTAIN FIRST CHARACTER	4F1D3290
	14222	0	77100	0	00036		ARS 30	X	4F1D3300
	14223	0	10000	0	14215		TZE SP4	DOUBLE SPACE IF ZERO	4F1D3310
	14224	0	34000	0	14404		CAS YZONE	TEST FOR SPACE SUPPRESS	4F1D3320
TD	14225	-3	00000	0	14227		TXL BK	NO	4F1D3330
TD	14226	-3	00000	0	14247		TXL RPR+1	SUPPRESS SPACE	4F1D3340
	14227	0	34000	0	14405	BK	CAS BNK	TEST FOR BLANK	4F1D3350
TD	14230	-3	00000	0	14232		TXL DIGF	NO	4F1D3360
TD	14231	-3	00000	0	14250		TXL RPR+2	BLANK	4F1D3370
	14232	0	76000	0	00372	DIGF	SPR 10	SET CHANNEL SKIP	4F1D3380
	14233	-0	32000	0	14234		ANA MK	MASK OUT ZONE	4F1D3390
	14234	0	73400	1	00017	MK	PAX 15,1	OBTAIN SPR COMBINATION	4F1D3400
	14235	1	00001	1	14236		TXI N2,1,1	X	4F1D3410
	14236	-2	00010	1	14240	N2	TNX N3,1,8	X	4F1D3420
	14237	0	76000	0	00370		SPR 8	X	4F1D3430

	14240	-2	00004	1	14242	N3	TNX N4,1,4	X	4F1D3440
	14241	0	76000	0	00364		SPR 4	X	4F1D3450
	14242	-2	00002	1	14244	N4	TNX N5,1,2	X	4F1D3460
	14243	0	76000	0	00362		SPR 2	X	4F1D3470
	14244	-2	00001	1	14246	N5	TNX RPR,1,1	X	4F1D3480
	14245	0	76000	0	00361		SPR 1	X	4F1D3490
	14246	0	76600	0	00361	RPR	WPR		4F1D3500
	14247	0	76000	0	00365		SPR 5	SUPPRESS SPACE	4F1D3510
	14250	0	50000	0	14402		CLA BLNKS	FIND LAST NON-BLANK GROUP	4F1D3520
	14251	-0	53400	4	14312		LXD CI4,4	X	4F1D3530
	14252	0	34000	4	00000	PR2	CAS 0,4	X	4F1D3540
	14253	1	77777	4	14256		TXI PR1,4,-1	X	4F1D3550
	14254	1	00001	4	14252		TXI PR2,4,1	X	4F1D3560
	14255	1	77777	4	14256		TXI PR1,4,-1	X	4F1D3570
	14256	-0	63400	4	14316	PR1	SXD CI6,4	STORE END TEST	4F1D3580
	14257	-0	63400	4	14330		SXD CI8,4	X	4F1D3590
	14260	-0	63400	4	14263		SXD PR8,4	X	4F1D3600
	14261	-0	63400	4	14370		SXD WP4,4	X	4F1D3610
	14262	-0	53400	4	14211		LXD PR6,4	X	4F1D3620
D	14263	-2	00000	4	14267	PR8	TNX PR5,4		4F1D3630
	14264	-3	00014	4	14266		TXL PR3,4,12		4F1D3640
	14265	0	76000	0	00370		SPR 8	FIRST CYCLE	4F1D3650
	14266	-0	53400	4	14211	PR3	LXD PR6,4	INITIALIZE GROUP COUNT	4F1D3660
	14267	0	53400	2	14271	PR5	LXA PR7,2	INITIALIZE LEFT SETUP	4F1D3670
	14270	-0	53400	1	14333		LXD YZ1,1	CLEAR CARD IMAGE	4F1D3680
T	14271	-0	75400	0	00000	PR7	PXD	X	4F1D3690
	14272	0	60200	1	14451	PR4	SLW LT,1	X	4F1D3700
	14273	0	60200	1	14431		SLW RT,1	X	4F1D3710
	14274	2	00001	1	14272		TIX PR4,1,1	X	4F1D3720
	14275	-0	50000	0	14407	CIR	CAL COL1	INITIALIZE COLUMN INDICATOR	4F1D3730
	14276	0	60200	0	14410	CI2	SLW COL	X	4F1D3740
	14277	0	56000	4	00000	CI9	LDQ 0,4	OBTAIN GROUP	4F1D3750
	14300	-0	63400	4	14214		SXD OZ2,4	STORE GROUP COUNT	4F1D3760
	14301	0	53400	4	14303		LXA Q6,4	SET CHARACTER COUNT	4F1D3770
T	14302	-0	75400	0	00000	CI1	PXD		4F1D3780
	14303	-0	76300	0	00006	Q6	LGL 6		4F1D3790
	14304	0	73400	1	00000		PAX 0,1	POSITION COLUMN INDICATOR	4F1D3800
	14305	-0	50000	0	14410		CAL COL	X	4F1D3810
	14306	0	77100	4	00006		ARS 6,4	TEST FOR DIGIT	4F1D3820
	14307	2	00020	1	14333		TIX YZ1,1,16	TEST FOR Y-ZONE	4F1D3830
	14310	3	00017	1	14336		TXH YZ2,1,15	STORE DIGIT	4F1D3840
	14311	-0	60200	3	14446	CI5	ORS D,3	COUNT CHARACTERS	4F1D3850
	14312	2	00001	4	14302	CI4	TIX CI1,4,1	SHIFT AND TEST COLUMN	4F1D3860
	14313	0	77100	0	00001	CI3	ARS 1	RESTORE GROUP COUNT	4F1D3870
	14314	-0	53400	4	14214		LXD OZ2,4	COUNT GROUPS	4F1D3880
	14315	1	77777	4	14316		TXI CI6,4,-1	TEST FOR LAST NON-BLANK GROUP	4F1D3890
D	14316	-3	00000	4	14320	CI6	TXL CI7,4	TEST FOR END OF ROW	4F1D3900
	14317	-0	10000	0	14276		TNZ CI2	FORM TRUE 8,4	4F1D3910
	14320	-0	50000	2	14433	CI7	CAL 8,3,2	AND 3 ROWS AND	4F1D3920
	14321	-0	60200	2	14436		ORS D-8,2	MOVE 8,4 AND 8,3	4F1D3930
	14322	-0	60200	2	14443		ORS D-3,2	ROWS	4F1D3940
	14323	0	60200	2	14434		SLW 8,2,2	FORM TRUE 8,4	4F1D3950
	14324	-0	50000	2	14432		CAL 8,4,2	X	4F1D3960
	14325	-0	60200	2	14436		ORS D-8,2		4F1D3970

	14326	-0	60200	2	14442	ORS D-4,2	X	4F1D3980
	14327	0	60200	2	14433	SLW 8.3,2	X	4F1D3990
D	14330	-3	00000	4	14353	C18 TXL WP,4	TEST FOR END	4F1D4000
	14331	3	00017	2	14353	TXH WP,2,15	TEST FOR RIGHT HALF	4F1D4010
	14332	1	00020	2	14275	TXI CIR,2,16	INITIALIZE RIGHT HALF	4F1D4020
	14333	2	00020	1	14341	YZ1 TIX XZ1,1,16	TEST FOR 16/CH/32	4F1D4030
	14334	3	00017	1	14344	TXH XZ2,1,15	TEST FOR X-ZONE	4F1D4040
	14335	-0	60200	3	14446	ORS D,3	STORE DIGIT	4F1D4050
	14336	-0	60200	2	14450	YZ2 ORS Y,2	STORE Y-ZONE	4F1D4060
	14337	2	00001	4	14302	TIX CI1,4,1	COUNT CHARACTERS	4F1D4070
TD	14340	-3	00000	0	14313	X1 TXL CI3	OBTAIN NEXT GROUP	4F1D4080
	14341	2	00020	1	14347	XZ1 TIX OZ1,1,16	TEST FOR 32/CH/48	4F1D4090
	14342	3	00017	1	14312	TXH CI4,1,15	TEST FOR BLANK	4F1D4100
	14343	-0	60200	3	14446	ORS D,3	STORE DIGIT	4F1D4110
	14344	-0	60200	2	14447	XZ2 ORS X,2	STORE X-ZONE	4F1D4120
TD	14345	2	00001	4	14302	TIX CI1,4,1	COUNT CHARACTERS	4F1D4130
	14346	-3	00000	0	14313	X2 TXL CI3	OBTAIN NEXT GROUP	4F1D4140
	14347	-0	60200	2	14446	OZ1 ORS Z,2	STORE O-ZONE	4F1D4150
	14350	-0	60200	3	14446	ORS D,3	STORE DIGIT	4F1D4160
TD	14351	2	00001	4	14302	TIX CI1,4,1	COUNT CHARACTERS	4F1D4170
TD	14352	-3	00000	0	14313	TXL CI3		4F1D4180
TD	14353	3	00000	0	14355	WP TXH WP9	INVERTED TO TXL IF PROGRAM CARRIAGE CONTROL	4F1D4190
TD	14354	-3	00000	0	14361	TXL WP7	NO PROGRAM	4F1D4200
	14355	-0	53400	1	14401	WP9 LXD WP2,1	MASK OUT FIRST COL. OF CARD IMAGE	4F1D4210
	14356	-0	50000	0	14406	CAL MK2	X	4F1D4220
	14357	0	32000	1	14451	ANS ANS LT,1	X	4F1D4230
	14360	2	00001	1	14357	TIX ANS,1,1	X	4F1D4240
	14361	-0	53400	1	14213	WP7 LXD Z2,1	COPY LOOP	4F1D4250
	14362	0	70000	1	14435	CRAN CPY LT-12,1		4F1D4260
	14363	0	70000	1	14415	CPY RT-12,1	X	4F1D4270
	14364	1	77777	1	14365	TXI T2,1,-1		4F1D4280
	14365	3	77764	1	14362	T2 TXH CRAN,1,-12		4F1D4290
	14366	-0	50000	0	14353	CAL WP	RESET SWITCH FOR SECOND CYCLE	4F1D4300
	14367	0	60100	0	14353	STO WP	X	4F1D4310
D	14370	3	00000	4	14377	WP4 TXH WP5,4		4F1D4320
	14371	-0	53400	1	14340	LXD X1,1	NO, RELOAD INDEX REGISTERS AND RETURN	4F1D4330
	14372	-0	53400	2	14346	LXD X2,2	X	4F1D4340
	14373	-0	53400	4	14403	WT2 LXD X4,4	X	4F1D4350
	14374	0	02000	4	00002	L2 TRA 2,4	X	4F1D4360
	14375	0	76600	0	00361	RPR2 WPR		4F1D4370
TD	14376	-3	00000	0	14250	TXL PR2-2		4F1D4380
	14377	0	76600	0	00361	WP5 WPR		4F1D4390
	14400	0	76000	0	00371	SPR 9	SECOND CYCLE	4F1D4400
	14401	-3	00014	0	14267	WP2 TXL PR5,0,12	CONVERT REST OF LINE	4F1D4410
	14402	606060606060				BLNKS BCD 1		4F1D4420
A	14403	0	00000	0	00000	X4 HTR		4F1D4430
	14404	+0000000000020				YZONE OCT 20		4F1D4440
	14405	+0000000000060				BNK OCT 60		4F1D4450
	14406	+377777777777				MK2 OCT 377777777777		4F1D4460
	14407	-0	00000	0	00000	COL1 MZE		4F1D4470
					14410	COL BSS 1		4F1D4480
					14431	RT BES 16		4F1D4490
					14431	8.5 BSS 1		4F1D4500
					14432	8.4 BSS 1		4F1D4510

14433	8.3	BSS	1	4F1D4520
14434	8.2	BSS	1	4F1D4530
14446	D	BES	9	4F1D4540
14446	Z	BSS	1	4F1D4550
14447	X	BSS	1	4F1D4560
14450	Y	BSS	1	4F1D4570
14451	LT	SYN	Y+1	4F1D4580
14433	8.4L	SYN	LT-14	4F1D4590
14413	8.4R	SYN	RT-14	4F1D4600
14451		BSS	27	4F1D4610
14022	EXIT	SYN	SECND	4F1D4620
ADDRESS REQUIRED FROM SECTION ONE.....				4F1D4630
01152	F	SYN	618	4F1D4640
02402	MON	SYN	1282	4F1D4650
02367	DCELL1	SYN	1271	4F1D4660
			ADDRESS OF 1ST WORD OF F REGION	4F1D4670
			ADDRESS OF ENTRY TO MONITOR FOR A	4F1D4680

TABLE OF DIAGNOSTIC COMMENTS, SECTION ONE OF 704 FORTRAN II.

COMMON

14504	TABLE	BSS	0		
14505	BCD	XXXXXX000001		DIM3 TABLE EXCEEDED. THE NUMBER OF 3-DIMEN	4F1D4750
14506	676767676767				
14507	000000000001				
14510	606060606060				
14511	243144036063				
14512	212243256025				
14513	672325252425				
14514	243360633025				
14515	604564442225				
14516	516046266003				
14517	402431442545				
14520	623146452143				
14521	606521513121				
14522	224325626066				
14523	303123306021				
14524	474725215160				
14525	314560243144				
14526	254562314645				
14527	606263216325				
14530	442545636260				
	256723252524				
	626011003360				
		BCD	15 90.		4F1D4770
14531	676767676767				4F1D4780
14532	000000000002			DIM2 TABLE EXCEEDED. THE NUMBER OF 2-DIMEN	4F1D4790
14533	606060606060				
14534	243144026063				
14535	212243256025				
14536	672325252425				
14537	243360633025				
14540	604564442225				
14541	516046266002				



14542 402431442545  
 14543 623146452143  
 14544 606521513121  
 14545 224325626066  
 14546 303123306021  
 14547 474725215160  
 14550 314560243144  
 14551 254562314645  
 14552 606263216325  
 14553 442545636260  
 14554 256723252524  
 14555 626001000033

BCD SIGNAL VARIABLES WHICH APPEAR IN DIMENSION STATEMENTS EXCEED4F1D4800

14556 676767676767  
 14557 000000000003  
 14560 606060606060  
 14561 243144016063  
 14562 212243256025  
 14563 672325252425  
 14564 243360633025  
 14565 604564442225  
 14566 516046266001  
 14567 402431442545  
 14570 623146452143  
 14571 606521513121  
 14572 224325626066  
 14573 303123306021  
 14574 474725215160  
 14575 314560243144  
 14576 254562314645  
 14577 606263216325  
 14600 442545636260  
 14601 256723252524  
 14602 626001000033

BCD IS 100. 4F1D4810  
 4F1D4820  
 BCD XXXXXX000003 DIM1 TABLE EXCEEDED. THE NUMBER OF 1-DIMEN4F1D4830

14603 676767676767  
 14604 000000000004  
 14605 606060606060  
 14606 623127442160  
 14607 632122432560  
 14610 256723252524  
 14611 252433604446  
 14612 512560633021  
 14613 456003006024  
 14614 312626255125  
 14615 456360512543  
 14616 216331652560  
 14617 212424512562  
 14620 622562605125  
 14621 626443633145  
 14622 276026514644  
 14623 606330256021  
 14624 242425452462  
 14625 603145606264

BCD SIGNAL VARIABLES WHICH APPEAR IN DIMENSION STATEMENTS EXCEED4F1D4840

BCD IS 100. 4F1D4850  
 4F1D4860  
 BCD XXXXXX000004 SIGMA TABLE EXCEEDED. MORE THAN 30 DIFFERE4F1D4870

BCD NT RELATIVE ADDRESSES RESULTING FROM THE ADDENDS IN SUBSCRIP4F1D4880

14626 226223513147  
 14627 636260462660  
 14630 633031626062  
 14631 632163254425  
 14632 456333607462  
 14633 312745602346  
 14634 456231242551  
 14635 252473604645  
 14636 256051254321  
 14637 633165256021  
 14640 242451256262  
 14641 462660006021  
 14642 626264444425  
 14643 243460606060

BCD TS OF THIS STATEMENT. (SIGN CONSIDERED, ONE RELATIVE ADDRESS4F1D4890

BCD 30F 0 ASSUMED)

4F1D4900

14644 676767676767  
 14645 000000000005  
 14646 606060606060  
 14647 632164036063  
 14650 212243256025  
 14651 672325252425  
 14652 243360633025  
 14653 606346632143  
 14654 316370604626  
 14655 602431262625  
 14656 512545636003  
 14657 402431442545  
 14660 623146452143  
 14661 606264226223  
 14662 513147636023  
 14663 464422314521  
 14664 633146456260  
 14665 256723252524  
 14666 626007056026  
 14667 465160633031  
 14670 626047514627  
 14671 512144336060

BCD XXXXXX000005

TAU3 TABLE EXCEEDED. THE TOTALITY OF DIFFE4F1D4920

4F1D4910

BCD RENT 3-DIMENSIONAL SUBSCRIPT COMBINATIONS EXCEEDS 75 FOR TH14F1D4930

BCD 2S PROGRAM.

4F1D4940

14672 676767676767  
 14673 000000000006  
 14674 606060606060  
 14675 632164026063  
 14676 212243256025  
 14677 672325252425  
 14700 243360633025  
 14701 606346632143  
 14702 316370604626  
 14703 602431262625  
 14704 512545636002  
 14705 402431442545  
 14706 623146452143  
 14707 606264226223  
 14710 513147636023  
 14711 464422314521

BCD XXXXXX000006

TAU2 TABLE EXCEEDED. THE TOTALITY OF DIFFE4F1D4960

4F1D4950

BCD RENT 2-DIMENSIONAL SUBSCRIPT COMBINATIONS EXCEEDS 90 FOR TH14F1D4970

14712 633146456260  
14713 256723252524  
14714 626011006026  
14715 465160633031  
14716 626047514627  
14717 512144336060

BCD 2S PROGRAM.

4F1D4980

14720 676767676767  
14721 000000000007  
14722 606060606060  
14723 632164016063  
14724 212243256025  
14725 672325252425  
14726 243360633025  
14727 606346632143  
14730 316370604626  
14731 602431262625  
14732 512545636001  
14733 402431442545  
14734 623146452143  
14735 606264226223  
14736 513147636023  
14737 464422314521  
14740 633146456260  
14741 256723252524  
14742 626001000060  
14743 264651606330  
14744 316260475146  
14745 275121443360

BCD XXXXXX000007

TAU1 TABLE EXCEEDED. THE TOTALITY OF DIFFE4F1D5000

BCD RENT 1-DIMENSIONAL SUBSCRIPT COMBINATIONS EXCEEDS 100 FOR TH4F1D5010

14746 676767676767  
14747 000000000100  
14750 606060606060  
14751 264346234645  
14752 606321224325  
14753 602567232525  
14754 242524336044  
14755 465125606330  
14756 216360040500  
14757 602431262625  
14760 254563602643  
14761 462163314527  
14762 604746314563  
14763 602346456263  
14764 214563626031  
14765 456063303162  
14766 604751462243  
14767 254433607462  
14770 312745604546  
14771 636023464562  
14772 312425512524  
14773 346060606060

BCD 2IS PROGRAM.

4F1D5020

BCD XXXXXX000010

FLOCON TABLE EXCEEDED. MORE THAT 450 DIFFE4F1D5040

BCD RENT FLOATING POINT CONSTANTS IN THIS PROBLEM. (SIGN NOT CONS4F1D5050

BCD 2IDERED)

4F1D5060

14774 676767676767

BCD XXXXXX000011

FIXCON TABLE EXCEEDED. MORE THAN 100 DIFFE4F1D5080

14775 000000000101  
 14776 606060606060  
 14777 263167234645  
 15000 606321224325  
 15001 602567232525  
 15002 242524336044  
 15003 465125606330  
 15004 214560010000  
 15005 602431262625  
 15006 512545636026  
 15007 316725246047  
 15010 463145636023  
 15011 464562632145  
 15012 636260314560  
 15013 633031626047  
 15014 514627512144  
 15015 336074623127  
 15016 456045466360  
 15017 234645623124  
 15020 255125243460

BCD RENT FIXED POINT CONSTANTS IN THIS PROGRAM. (SIGN NOT CONSID4F1D5090

BCD 1ERED)

4F1D5100

BCD XXXXXX001635

MORE THAN SIX CHARACTERS IN SOME SYMBOL.

4F1D5110

4F1D5120

15021 676767676767  
 15022 000001060305  
 15023 606060606060  
 15024 444651256063  
 15025 302145606231  
 15026 676023302151  
 15027 212363255162  
 15030 603145606246  
 15031 442560627044  
 15032 224643336060

BCD XXXXXX001643

ILLEGAL PUNCTUATION IN THIS STATEMENT.

4F1D5130

4F1D5140

15033 676767676767  
 15034 000001060403  
 15035 606060606060  
 15036 314343252721  
 15037 436047644523  
 15040 636421633146  
 15041 456031456063  
 15042 303162606263  
 15043 216325442545  
 15044 633360606060

BCD XXXXXX002034

MACHINE ERROR. CAS CONTRADICTS PREVIOUS TL4F1D5160

4F1D5150

15045 676767676767  
 15046 000002000304  
 15047 606060606060  
 15050 442123303145  
 15051 256025515146  
 15052 513360232162  
 15053 602346456351  
 15054 212431236362  
 15055 604751256531  
 15056 466462606343  
 15057 503360606060

BCD 1Q.

4F1D5170

15060 676767676767  
15061 000002000602  
15062 606060606060  
15063 512547252163  
15064 252460233025  
15065 234260626444  
15066 602551514651  
15067 603145605125  
15070 212431452760  
15071 245164446003  
15072 336060606060

BCD XXXXXX002062

4F1D5180  
REPEATED CHECK SUM ERROR IN READING DRUM 34F1D5190

15073 676767676767  
15074 000002020606  
15075 606060606060  
15076 442123303145  
15077 256025515146  
15100 513360314524  
15101 256760262131  
15102 436451253360  
15103 606060606060  
15104 606060606060

BCD 1.

4F1D5200  
4F1D5210  
4F1D5220

BCD XXXXXX002266

MACHINE ERROR. INDEX FAILURE.

15105 676767676767  
15106 000002040303  
15107 606060606060  
15110 512547252163  
15111 252460262131  
15112 436451256031  
15113 456051252124  
15114 314527606263  
15115 216325602360  
15116 265146446024  
15117 516444600433  
15120 606060606060

BCD XXXXXX002433

4F1D5230  
REPEATED FAILURE IN READING STATE C FROM D4F1D5240

BCD 2RUM 4.

4F1D5250

15121 676767676767  
15122 000002040304  
15123 606060606060  
15124 512547252163  
15125 252460262131  
15126 436451256031  
15127 456051252124  
15130 314527606263  
15131 216325602260  
15132 265146446024  
15133 516444600333  
15134 606060606060

BCD XXXXXX002434

4F1D5260  
REPEATED FAILURE IN READING STATE B FROM D4F1D5270

BCD 2RUM 3.

4F1D5280

15135 676767676767  
15136 000002040305  
15137 606060606060  
15140 512547252163

BCD XXXXXX002435

4F1D5290  
REPEATED FAILURE IN READING STATE D FROM D4F1D5300

15141 252460262131  
15142 436451256031  
15143 456051252124  
15144 314527606263  
15145 216325602460  
15146 265146446024  
15147 516444600233  
15150 606060606060

BCD 2RUM 2.

4F1D5310

15151 676767676767  
15152 000002040306  
15153 606060606060  
15154 512547252163  
15155 252460262131  
15156 436451256031  
15157 456051252124  
15160 314527606263  
15161 216325602160  
15162 265146446024  
15163 516444600133  
15164 606060606060

BCD XXXXXX002436

REPEATED FAILURE IN READING STATE A FROM D4F1D5330

4F1D5320

BCD 2RUM 1.

4F1D5340

15165 676767676767  
15166 000002050203  
15167 606060606060  
15170 442123303145  
15171 256025515146  
15172 513360314524  
15173 256760262131  
15174 436451253360  
15175 606060606060  
15176 606060606060

BCD XXXXXX002523

MACHINE ERROR. INDEX FAILURE.

4F1D5350

4F1D5360

15177 676767676767  
15200 000002050605  
15201 606060606060  
15202 512547252163  
15203 252460233025  
15204 234260626444  
15205 602551514651  
15206 603145605125  
15207 212431452760  
15210 632122432562  
15211 265146446024  
15212 516444600273  
15213 600360465160  
15214 043360606060

BCD XXXXXX002565

REPEATED CHECK SUM ERROR IN READING TABLES4F1D5380

4F1D5370

BCD 4FROM DRUM 2, 3 OR 4.

4F1D5390

15215 676767676767  
15216 000002050707  
15217 606060606060  
15220 454645404564  
15221 442551312360  
15222 233021512123

BCD XXXXXX002577

NON-NUMERIC CHARACTER IN NUMERIC FIELD OR 4F1D5410

4F1D5400

4F1D5410

15223 632551603145  
15224 604564442551  
15225 312360263125  
15226 432460465160  
15227 474662623122  
15230 432560443162  
15231 623145276047  
15232 644523636421  
15233 633146456022  
15234 256366252545  
15235 602631254324  
15236 623360606060

BCD 8POSSIBLE MISSING PUNCTUATION BETWEEN FIELDS.

4F1D5420

15237 676767676767  
15240 000002060506  
15241 606060606060  
15242 216062642262  
15243 235131476360  
15244 316260454663  
15245 602160263167  
15246 252460474631  
15247 456360652151  
15250 312122432533

BCD XXXXXX002656

A SUBSCRIPT IS NOT A FIXED POINT VARIABLE. 4F1D5430  
4F1D5440

15251 676767676767  
15252 000002060606  
15253 606060606060  
15254 216062642262  
15255 235131476360  
15256 302162602160  
15257 244664224325  
15260 604464436331  
15261 474331255133  
15262 606060606060

BCD XXXXXX002666

A SUBSCRIPT HAS A DOUBLE MULTIPLIER.

4F1D5450  
4F1D5460

15263 676767676767  
15264 000002060703  
15265 606060606060  
15266 216062642262  
15267 235131476360  
15270 446443633147  
15271 433125516031  
15272 626045466360  
15273 216023464562  
15274 632145633360

BCD XXXXXX002673

A SUBSCRIPT MULTIPLIER IS NOT A CONSTANT. 4F1D5470  
4F1D5480

15275 676767676767  
15276 000002070200  
15277 606060606060  
15300 444651256063  
15301 302145606231  
15302 676023302151  
15303 212363255162  
15304 603145602160

BCD XXXXXX002720

MORE THAN SIX CHARACTERS IN A SYMBOL WITH 4F1D5490  
4F1D5500

15305 627044224643  
 15306 606631633031  
 15307 456021606264  
 15310 226223513147  
 15311 636046516047  
 15312 466262312243  
 15313 256044316262  
 15314 314527604764  
 15315 452363642163  
 15316 314645336060

BCD 8N A SUBSCRIPT OR POSSIBLE MISSING PUNCTUATION.

4F1D5510

15317 676767676767  
 15320 000002070202  
 15321 606060606060  
 15322 633025512560  
 15323 316260214560  
 15324 314343252721  
 15325 436023302151  
 15326 212363255160  
 15327 314560624644  
 15330 256062642262  
 15331 622351314763  
 15332 336060606060

BCD XXXXXX002722

THERE IS AN ILLEGAL CHARACTER IN SOME SUBS4F1D5530

4F1D5520

15333 676767676767  
 15334 000002070401  
 15335 606060606060  
 15336 216062642262  
 15337 235131476360  
 15340 302162602160  
 15341 244664224325  
 15342 602124242545  
 15343 243360606060

BCD 2SCRIPT.

4F1D5540

BCD 9XXXXXX002741

A SUBSCRIPT HAS A DOUBLE ADDEND.

4F1D5550

4F1D5560

15344 676767676767  
 15345 000002070404  
 15346 606060606060  
 15347 216062642262  
 15350 235131476360  
 15351 316260454663  
 15352 602160263167  
 15353 252460474631  
 15354 456360652151  
 15355 312122432533

BCD XXXXXX002744

A SUBSCRIPT IS NOT A FIXED POINT VARIABLE.4F1D5580

4F1D5570

15356 676767676767  
 15357 000002070604  
 15360 606060606060  
 15361 216062642262  
 15362 235131476360  
 15363 316260454663  
 15364 602160263167  
 15365 252460474631  
 15366 456360652151

BCD XXXXXX002764

A SUBSCRIPT IS NOT A FIXED POINT VARIABLE.4F1D5600

4F1D5590



15367 312122432533

15370 676767676767  
15371 000003000203  
15372 606060606060  
15373 216062642262  
15374 235131476360  
15375 212424254524  
15376 603162604546  
15377 636021602346  
15400 456263214563  
15401 336060606060

15402 676767676767  
15403 000003000206  
15404 606060606060  
15405 633025512560  
15406 316260216047  
15407 215125456330  
15410 256231626044  
15411 316262314527  
15412 603145606246  
15413 442560626422  
15414 622351314763  
15415 602346442231  
15416 452163314645  
15417 336060606060

15420 676767676767  
15421 000003000604  
15422 606060606060  
15423 216003602431  
15424 442545623146  
15425 452143606264  
15426 226223513147  
15427 632524606521  
15430 513121224325  
15431 602446256260  
15432 454663603021  
15433 652560216024  
15434 314425456231  
15435 464560626321  
15436 632544254563  
15437 602545635170  
15440 336060606060

15441 676767676767  
15442 000003010501  
15443 606060606060  
15444 216002602431  
15445 442545623146  
15446 452143606264  
15447 226223513147  
15450 632524606521

BCD XXXXXX003023

A SUBSCRIPT ADDEND IS NOT A CONSTANT.

4F1D5610  
4F1D5620

BCD XXXXXX003026

THERE IS A PARENTHESIS MISSING IN SOME SUB4F1D5640

4F1D5630

BCD 4SCRIPT COMBINATION.

4F1D5650

BCD XXXXXX003064

A 3 DIMENSIONAL SUBSCRIPTED VARIABLE DOES 4F1D5670

4F1D5660

BCD 7NOT HAVE A DIMENSION STATEMENT ENTRY.

4F1D5680

BCD XXXXXX003151

A 2 DIMENSIONAL SUBSCRIPTED VARIABLE DOES 4F1D5700

4F1D5690

15451 513121224325  
 15452 602446256260  
 15453 454663603021  
 15454 652560216024  
 15455 314425456231  
 15456 464560626321  
 15457 632544254563  
 15460 602545635170  
 15461 336060606060

BCD 7NOT HAVE A DIMENSION STATEMENT ENTRY.

4F1D5710

15462 676767676767  
 15463 000003020504  
 15464 606060606060  
 15465 475146275121  
 15466 446025674725  
 15467 236362602346  
 15470 444421604651  
 15471 602545246046  
 15472 266062632163  
 15473 254425456333

BCD XXXXXX003254

4F1D5720  
 PROGRAM EXPECTS COMMA OR END OF STATEMENT.4F1D5730

15474 676767676767  
 15475 000003020602  
 15476 606060606060  
 15477 475146275121  
 15500 446025674725  
 15501 236362602346  
 15502 444421604651  
 15503 605131273063  
 15504 604721512545  
 15505 633025623162  
 15506 336060606060

BCD XXXXXX003262

4F1D5740  
 PROGRAM EXPECTS COMMA OR RIGHT PARENTHESIS4F1D5750

15507 676767676767  
 15510 000003020700  
 15511 606060606060  
 15512 475146275121  
 15513 446025674725  
 15514 236362604325  
 15515 266360472151  
 15516 254563302562  
 15517 316260465160  
 15520 254524604626  
 15521 606263216325  
 15522 442545633360

BCD 1.

4F1D5760

BCD XXXXXX003270

4F1D5770  
 PROGRAM EXPECTS LEFT PARENTHESIS OR END OF4F1D5780

15523 676767676767  
 15524 000003020702  
 15525 606060606060  
 15526 442123303145  
 15527 256025515146  
 15530 513360212360  
 15531 275125216325  
 15532 516063302145

BCD 2 STATEMENT.

4F1D5790

BCD XXXXXX003272

4F1D5800  
 MACHINE ERROR. AC GREATER THAN OCTAL 77. 4F1D5810

15533 604623632143  
15534 600707336060

15535 676767676767  
15536 000003020704  
15537 606060606060  
15540 475146275121  
15541 446025674725  
15542 236362602545  
15543 246046266062  
15544 632163254425  
15545 456333606060

BCD 9XXXXXX003274

PROGRAM EXPECTS END OF STATEMENT.

4F1D5820  
4F1D5830

15546 676767676767  
15547 000003030000  
15550 606060606060  
15551 475146275121  
15552 446025674725  
15553 236362604325  
15554 266360472151  
15555 254563302562  
15556 316233606060

BCD 9XXXXXX003300

PROGRAM EXPECTS LEFT PARENTHESIS.

4F1D5840  
4F1D5850

15557 676767676767  
15560 000003030004  
15561 606060606060  
15562 475146275121  
15563 446025674725  
15564 236362605131  
15565 273063604721  
15566 512545633025  
15567 623162336060

BCD 9XXXXXX003304

PROGRAM EXPECTS RIGHT PARENTHESIS.

4F1D5860  
4F1D5870

15570 676767676767  
15571 000003030100  
15572 606060606060  
15573 475146275121  
15574 446025674725  
15575 236362602346  
15576 444421336060

BCD 7XXXXXX003310

PROGRAM EXPECTS COMMA.

4F1D5880  
4F1D5890

15577 676767676767  
15600 000003030104  
15601 606060606060  
15602 627044224643  
15603 602225273145  
15604 626045644425  
15605 513123606630  
15606 312330603162  
15607 603143432527  
15610 214360314560  
15611 633031626023  
15612 464563256763  
15613 336060606060

BCD XXXXXX003314

SYMBOL BEGINS NUMERIC WHICH IS ILLEGAL IN

4F1D5900

4F1D5910

BCD 3THIS CONTEXT.

4F1D5920

15614 676767676767  
15615 000003030106  
15616 606060606060  
15617 627044224643  
15620 602225273145  
15621 626045464540  
15622 456444255131  
15623 236066303123  
15624 306031626031  
15625 434325272143  
15626 603145606330  
15627 316260234645  
15630 632567633360

15631 676767676767  
15632 000003050402  
15633 606060606060  
15634 633025602330  
15635 215121236325  
15636 516060536060  
15637 462323645162  
15640 603145606330  
15641 316260626321  
15642 632544254563  
15643 606246442566  
15644 302551256046  
15645 633025516063  
15646 302145603145  
15647 603046434325  
15650 513163306063  
15651 256763336060  
15652 606060606060

15653 676767676767  
15654 000003050405  
15655 606060606060  
15656 633025603143  
15657 432527214360  
15660 233021512123  
15661 632551607260  
15662 607400401040  
15663 026047644523  
15664 303460462323  
15665 645162603145  
15666 606330316260  
15667 626321632544  
15670 254563336060

15671 676767676767  
15672 000003050500  
15673 606060606060

BCD XXXXXX003316

4F1D5930  
SYMBOL BEGINS NON-NUMERIC WHICH IS ILLEGAL 4F1D5940

BCD 3 IN THIS CONTEXT.

4F1D5950

STATE A

BCD XXXXXX003542

4F1D5960  
4F1D5970  
4F1D5980  
THE CHARACTER \$ OCCURS IN THIS STATEMENT 4F1D5990

BCD 8 SOMEWHERE OTHER THAN IN HOLLERITH TEXT.

4F1D6000

BCD XXXXXX003545

4F1D6010  
THE ILLEGAL CHARACTER (0 8-2 PUNCH) OCCURS 4F1D6020

BCD 4URS IN THIS STATEMENT.

4F1D6030

BCD XXXXXX003550

4F1D6040  
THE ILLEGAL CHARACTER -0 (11-8-2 PUNCH) 0 4F1D6050

15674 633025603143  
15675 432527214360  
15676 233021512123  
15677 632551604000  
15700 607401014010  
15701 400260476445  
15702 233034604660  
15703 232364516260  
15704 314560633031  
15705 626062632163  
15706 254425456333

BCD 4CCURS IN THIS STATEMENT.

4F1D6060

15707 676767676767  
15710 000003050503  
15711 606060606060  
15712 633025603143  
15713 432527214360  
15714 233021512123  
15715 632551602000  
15716 607401024010  
15717 400260476445  
15720 233034604660  
15721 232364516260  
15722 314560633031  
15723 626062632163  
15724 254425456333

BCD XXXXXX003553

THE ILLEGAL CHARACTER +0 (12-8-2 PUNCH) O 4F1D6080

4F1D6070

15725 676767676767  
15726 000003050506  
15727 606060606060  
15730 633025603143  
15731 432527214360  
15732 233021512123  
15733 632551604060  
15734 741040046047  
15735 644523303460  
15736 462323645160  
15737 626031456063  
15740 303162606263  
15741 216325442545  
15742 633360606060

BCD 4CCURS IN THIS STATEMENT.

4F1D6090

BCD XXXXXX003556

THE ILLEGAL CHARACTER - (8-4 PUNCH) OCCUR 4F1D6110

4F1D6100

15743 676767676767  
15744 000003050601  
15745 606060606060  
15746 633025604546  
15747 456022232460  
15750 233021512123  
15751 632551600000  
15752 010001006030  
15753 216260222525  
15754 456051256060  
15755 212460265146  
15756 446063214725

BCD 4S IN THIS STATEMENT.

4F1D6120

BCD XXXXXX003561

THE NON BCD CHARACTER 001010 HAS BEEN RE

4F1D6130

4F1D6140

BCD 8AD FROM TAPE WHILE PROCESSING THIS STATEMENT.

4F1D6150

15757 606630314325  
 15760 604751462325  
 15761 626231452760  
 15762 633031626062  
 15763 632163254425  
 15764 456333606060

15765 676767676767  
 15766 000003060105  
 15767 606060606060  
 15770 634646604421  
 15771 457060513127  
 15772 306360472151  
 15773 254563302562  
 15774 316233606060

15775 676767676767  
 15776 000003060204  
 15777 606060606060  
 16000 454645402151  
 16001 316330442563  
 16002 312360626321  
 16003 632544254563  
 16004 604626602160  
 16005 637047256066  
 16006 303123306031  
 16007 626045466360  
 16010 314560243123  
 16011 633146452151  
 16012 703360606060

16013 676767676767  
 16014 000004000505  
 16015 606060606060  
 16016 634646602625  
 16017 666051312730  
 16020 636047215125  
 16021 456330256231  
 16022 623360606060  
 16023 606060606060  
 16024 606060606060

16025 676767676767  
 16026 000004020205  
 16027 606060606060  
 16030 475146275121  
 16031 446025674725  
 16032 236362606346  
 16033 603360606060

16034 676767676767  
 16035 000004030004  
 16036 606060606060  
 16037 216065215131

BCD 8XXXXXX003615

TOO MANY RIGHT PARENTHESIS.

4F1D6160  
 4F1D6170

BCD XXXXXX003624

NON-ARITHMETIC STATEMENT OF A TYPE WHICH

4F1D6180  
 4F1D6190

BCD 45 NOT IN DICTIONARY.

4F1D6200

BCD XXXXXX004055

TOO FEW RIGHT PARENTHESIS.

4F1D6210  
 4F1D6220

BCD 7XXXXXX004225

PROGRAM EXPECTS TO .

4F1D6230  
 4F1D6240

BCD XXXXXX004304

A VARIABLE IN THIS LIST APPEARED PREVIOUSLY

4F1D6250

4F1D6260

16040 212243256031  
16041 456063303162  
16042 604331626360  
16043 214747252151  
16044 252460475125  
16045 653146646243  
16046 706031456021  
16047 602431442545  
16050 623146456062  
16051 632163254425  
16052 456333606060

BCD 5Y IN A DIMENSION STATEMENT.

4F1D6270

16053 676767676767  
16054 000004030203  
16055 606060606060  
16056 444651256063  
16057 302145600360  
16060 243144254562  
16061 314645626046  
16062 516044316262  
16063 314527605131  
16064 273063604721  
16065 512545633025  
16066 623162336060

BCD XXXXXX004323

MORE THAN 3 DIMENSIONS OR MISSING RIGHT PA4F1D6290

4F1D6280

16067 676767676767  
16070 000004040404  
16071 606060606060  
16072 216062642251  
16073 466463314525  
16074 604651602664  
16075 452363314645  
16076 606263216325  
16077 442545636021  
16100 474725215162  
16101 432163255160  
16102 633021456063  
16103 302560263151  
16104 626360626321  
16105 632544254563  
16106 604626606330  
16107 256047514627  
16110 512144336047  
16111 514622212243  
16112 706021636325  
16113 444763606060  
16114 634660222163  
16115 233060234644  
16116 473143256066  
16117 316330466463  
16120 606225456225  
16121 606266316323  
16122 306006602446  
16123 664533606060

BCD 2RENTHESES.

4F1D6300

BCD XXXXXX004444

A SUBROUTINE OR FUNCTION STATEMENT APPEARS4F1D6320

4F1D6310

BCD LATER THAN THE FIRST STATEMENT OF THE PROGRAM. PROBABLY ATTE4F1D6330

BCD MPT TO BATCH COMPILE WITHOUT SENSE SWITCH 6 DOWN.

4F1D6340

16124 606060606060

16125 676767676767

16126 000004050404

16127 606060606060

16130 216051256364

16131 514560626321

16132 632544254563

16133 603021626046

16134 232364515125

16135 246031456021

16136 604751462751

16137 214460454663

16140 602425263145

16141 252460634660

16142 222560216062

16143 642251466463

16144 314525604651

16145 602664452363

16146 314645606264

16147 224751462751

16150 214433606060

16151 676767676767

16152 000004060603

16153 606060606060

16154 622545622560

16155 626631632330

16156 606225636331

16157 452760466330

16160 255160633021

16161 456000730160

16162 465160026060

16163 465160444651

16164 256063302145

16165 600560622563

16166 633145276260

16167 465160665146

16170 452760264651

16171 442163336060

16172 676767676767

16173 000004070005

16174 606060606060

16175 652151312122

16176 432560264651

16177 442163604564

16200 442225513360

16201 606060606060

16202 676767676767

16203 000004070007

16204 606060606060

16205 454660264651

BCD XXXXXX004544

A RETURN STATEMENT HAS OCCURRED IN A PROGRAM. 4F1D6350

BCD AM NOT DEFINED TO BE A SUBROUTINE OR FUNCTION SUBPROGRAM. 4F1D6370

BCD XXXXXX004663

SENSE SWITCH SETTING OTHER THAN 0, 1 OR 2. 4F1D6380  
4F1D6390

BCD FOR MORE THAN 5 SETTINGS OR WRONG FORMAT.

4F1D6400

BCD 8XXXXXX004705

VARIABLE FORMAT NUMBER.

4F1D6410  
4F1D6420

BCD 6XXXXXX004707

NO FORMAT NUMBER.

4F1D6430  
4F1D6440



16206 442163604564  
16207 442225513360

16210 676767676767  
16211 000005010700  
16212 606060606060  
16213 444651256063  
16214 302145606231  
16215 676023302151  
16216 212363255162  
16217 603145606246  
16220 442560627044  
16221 224643336060

BCD XXXXXX005170

MORE THAN SIX CHARACTERS IN SOME SYMBOL.

4F1D6450  
4F1D6460

16222 676767676767  
16223 000005020000  
16224 606060606060  
16225 314343252721  
16226 436023302151  
16227 212363255160  
16230 314560633031  
16231 626043316263  
16232 336060606060  
16233 606060606060

BCD XXXXXX005200

ILLEGAL CHARACTER IN THIS LIST.

4F1D6470  
4F1D6480

16234 676767676767  
16235 000005020600  
16236 606060606060  
16237 444651256063  
16240 302145606330  
16241 512525604325  
16242 652543626031  
16243 456063303162  
16244 604331626360  
16245 744525626325  
16246 246047215125  
16247 456330256231  
16250 623433606060

BCD XXXXXX005260

MORE THAN THREE LEVELS IN THIS LIST (NESTE4F1D6500

4F1D6490  
4F1D6500

16251 676767676767  
16252 000005020603  
16253 606060606060  
16254 216363254447  
16255 636063466062  
16256 472523312670  
16257 606264226223  
16260 513147636051  
16261 214527256066  
16262 316330466060  
16263 646360646225  
16264 604626604721  
16265 512545633025  
16266 623162336060

BCD XXXXXX005263

ATTEMPT TO SPECIFY SUBSCRIPT RANGE WITHO

4F1D6520  
4F1D6530

BCD 4UT USE OF PARENTHESIS.

4F1D6540

4F1D6550

16267 676767676767  
 16270 000005030005  
 16271 606060606060  
 16272 314523464447  
 16273 432563256062  
 16274 632163254425  
 16275 456360465160  
 16276 314523464447  
 16277 432563256023  
 16300 434662645125  
 16301 462660472151  
 16302 254563302562  
 16303 316233606060

BCD XXXXXX005305

INCOMPLETE STATEMENT OR INCOMPLETE CLOSURE4F1D6560

BCD 3OF PARENTHESIS.

4F1D6570

16304 676767676767  
 16305 000005030006  
 16306 606060606060  
 16307 314343252721  
 16310 436023302151  
 16311 212363255160  
 16312 314560244660  
 16313 624725233126  
 16314 312321633146  
 16315 456031456043  
 16316 316263336060

BCD XXXXXX005306

 4F1D6580  
 ILLEGAL CHARACTER IN DO SPECIFICATION IN L4F1D6590

BCD 11ST.

4F1D6600

BCD 8XXXXXX005401

TOO MANY RIGHT PARENTHESIS.

 4F1D6610  
 4F1D6620

16317 676767676767  
 16320 000005040001  
 16321 606060606060  
 16322 634646604421  
 16323 457060513127  
 16324 306360472151  
 16325 254563302562  
 16326 316233606060

BCD 6XXXXXX005416

CONSTANT IN LIST.

 4F1D6630  
 4F1D6640

16327 676767676767  
 16330 000005040106  
 16331 606060606060  
 16332 234645626321  
 16333 456360314560  
 16334 433162633360

BCD 8XXXXXX005552

TOO MANY LEFT PARENTHESIS.

 4F1D6650  
 4F1D6660

16335 676767676767  
 16336 000005050502  
 16337 606060606060  
 16340 634646604421  
 16341 457060432526  
 16342 636047215125  
 16343 456330256231  
 16344 623360606060

BCD XXXXXX005607

ILLEGAL CHARACTER IN THIS STATEMENT.

 4F1D6670  
 4F1D6680

16345 676767676767  
 16346 000005060007  
 16347 606060606060

16350 314343252721  
16351 436023302151  
16352 212363255160  
16353 314560633031  
16354 626062632163  
16355 254425456333  
16356 606060606060

16357 676767676767  
16360 000005070105  
16361 606060606060  
16362 216063214725  
16363 602330252342  
16364 603021626046  
16365 232364515125  
16366 246063305125  
16367 256063314425  
16370 626031456021  
16371 636325444763  
16372 314527606346  
16373 605125212460  
16374 216051252346  
16375 512460462660  
16376 633025606246  
16377 645123256047  
16400 514627512144  
16401 602651464460  
16402 632147256002  
16403 336021636325  
16404 444763606346  
16405 605125212460  
16406 212221452446  
16407 452524336063  
16410 302560626321  
16411 632544254563  
16412 603145654643  
16413 652524603162  
16414 604546636047  
16415 514623256262  
16416 252433603126  
16417 606330256051  
16420 252346512460  
16421 662162604546  
16422 636063302560  
16423 432162636051  
16424 252346512460  
16425 462660216062  
16426 632163254425  
16427 456360633025  
16430 602646434346  
16431 663145276024  
16432 312127454662  
16433 633123602346  
16434 444425456360

BCD XXXXXX005715

4F1D6690  
A TAPE CHECK HAS OCCURRED THREE TIMES IN A4F1D6700

BCD TEMPTING TO READ A RECORD OF THE SOURCE PROGRAM FROM TAPE 24F1D6710

BCD . ATTEMPT TO READ ABANDONED. THE STATEMENT INVOLVED IS NOT P4F1D6720

BCD ROCESSED. IF THE RECORD WAS NOT THE LAST RECORD OF A STATEME4F1D6730

BCD NT THE FOLLOWING DIAGNOSTIC COMMENT IS MEANINGLESS AND WAS C4F1D6740

16435 316260442521  
 16436 453145274325  
 16437 626260214524  
 16440 606621626023  
 16441 216462252460  
 16442 227060214560  
 16443 216363254447  
 16444 636063466047  
 16445 514623256262  
 16446 602160472151  
 16447 633121436062  
 16450 632163254425  
 16451 456333606060  
 16452 606060606060

BCD AUSED BY AN ATTEMPT TO PROCESS A PARTIAL STATEMENT.

4F1D6750

16453 676767676767  
 16454 000006000402  
 16455 606060606060  
 16456 314343252721  
 16457 436064622560  
 16460 462660264346  
 16461 216331452760  
 16462 474631456360  
 16463 652151312122  
 16464 432533606060

BCD XXXXXX006042

ILLEGAL USE OF FLOATING POINT VARIABLE.

4F1D6760

4F1D6770

## STATE B

16465 676767676767  
 16466 000003050207  
 16467 606060606060  
 16470 634646604421  
 16471 457060233021  
 16472 512123632551  
 16473 626031456062  
 16474 704422464333

BCD 8XXXXXX003527

TOO MANY CHARACTERS IN SYMBOL.

4F1D6780

4F1D6790

4F1D6800

4F1D6810

16475 676767676767  
 16476 000003060002  
 16477 606060606060  
 16500 314343252721  
 16501 436064622560  
 16502 462660603360  
 16503 602330215121  
 16504 236325513360

BCD 8XXXXXX003602

ILLEGAL USE OF . CHARACTER.

4F1D6820

4F1D6830

16505 676767676767  
 16506 000003060103  
 16507 606060606060  
 16510 215127512527  
 16511 606231712560  
 16512 256723252524  
 16513 252433606060

BCD 7XXXXXX003613

ARGREG SIZE EXCEEDED.

4F1D6840

4F1D6850

4F1D6860

16514 676767676767  
16515 000003060105  
16516 606060606060  
16517 314343252721  
16520 436064622560  
16521 462660304643  
16522 432551316330  
16523 606247252331  
16524 263123216331  
16525 464533606060

BCD XXXXXX003615

ILLEGAL USE OF HOLLERITH SPECIFICATION. 4F1D6870

16526 676767676767  
16527 000003060504  
16530 606060606060  
16531 454645407125  
16532 514660432565  
16533 254360512524  
16534 642363314645  
16535 336060606060

BCD 8XXXXXX003654

NON-ZERO LEVEL REDUCTION.

4F1D6880  
4F1D6890

16536 676767676767  
16537 000003060701  
16540 606060606060  
16541 314343252721  
16542 436064622560  
16543 462660601360  
16544 606231274533  
16545 606060606060

BCD 8XXXXXX003671

ILLEGAL USE OF = SIGN.

4F1D6900  
4F1D6910

16546 676767676767  
16547 000003070204  
16550 606060606060  
16551 314343252721  
16552 436064622560  
16553 462660603360  
16554 606231274533  
16555 606060606060

BCD 8XXXXXX003724

ILLEGAL USE OF . SIGN.

4F1D6920  
4F1D6930

16556 676767676767  
16557 000004000406  
16560 606060606060  
16561 633025604564  
16562 442551312360  
16563 234645635146  
16564 436046266021  
16565 603046434325  
16566 513163306063  
16567 256763603162  
16570 432151272551  
16571 606330214560  
16572 633025604564  
16573 442225516046  
16574 266023302151  
16575 212363255162

BCD XXXXXX004046

THE NUMERIC CONTROL OF A HOLLERITH TEXT IS 4F1D6950

4F1D6940

BCD 9LARGER THAN THE NUMBER OF CHARACTERS FOLLOWING THE H.

4F1D6960

16576 602646434346  
 16577 663145276063  
 16600 302560303360

16601 676767676767  
 16602 000004010306  
 16603 606060606060  
 16604 432144222421  
 16605 606321224325  
 16606 606231712560  
 16607 256723252524  
 16610 252433606060

16611 676767676767  
 16612 000004010400  
 16613 606060606060  
 16614 222563216063  
 16615 212243256062  
 16616 317125602567  
 16617 232525242524  
 16620 336060606060

16621 676767676767  
 16622 000004010403  
 16623 606060606060  
 16624 214347302160  
 16625 632122432560  
 16626 623171256025  
 16627 672325252425  
 16630 243360606060

16631 676767676767  
 16632 000004060407  
 16633 606060606060  
 16634 264346216331  
 16635 452760474631  
 16636 456360234645  
 16637 626321456360  
 16640 466463623124  
 16641 256051214527  
 16642 256046266044  
 16643 212330314525  
 16644 336060606060

16645 676767676767  
 16646 000004030407  
 16647 606060606060  
 16650 233025234260  
 16651 626444602551  
 16652 514651603145  
 16653 605125212431  
 16654 452760263167

BCD 8XXXXXX004136

LAMBDA TABLE SIZE EXCEEDED.

4F1D6970  
 4F1D6980

BCD 8XXXXXX004140

BETA TABLE SIZE EXCEEDED.

4F1D6990  
 4F1D7000

BCD 8XXXXXX004143

ALPHA TABLE SIZE EXCEEDED.

4F1D7010  
 4F1D7020

BCD XXXXXX004647

FLOATING POINT CONSTANT OUTSIDE RANGE OF M4F1D7040

4F1D7030

BCD 2ACHINE.

4F1D7050

STATE C

BCD XXXXXX004347

CHECK SUM ERROR IN READING FIXED POINT CON4F1D7090

4F1D7060  
 4F1D7070  
 4F1D7080

16655 252460474631  
16656 456360234645  
16657 626321456360  
16660 265146446024  
16661 516444600233

BCD 3STANT FROM DRUM 2.

4F1D7100

STATE D

4F1D7110  
4F1D7120  
4F1D7130  
4F1D7140

16662 676767676767  
16663 000003050001  
16664 606060606060  
16665 443167252460  
16666 256747512562  
16667 623146453360

BCD 6XXXXXX003501

MIXED EXPRESSION.

16670 676767676767  
16671 000003050003  
16672 606060606060  
16673 443167252460  
16674 256747512562  
16675 623146453360

BCD 6XXXXXX003503

MIXED EXPRESSION.

4F1D7150  
4F1D7160

16676 676767676767  
16677 000005020303  
16700 606060606060  
16701 233025234260  
16702 626444602551  
16703 514651603145  
16704 605125212431  
16705 452760623127  
16706 442160632122  
16707 432560254563  
16710 517060265146  
16711 446024516444  
16712 600233606060

BCD XXXXXX005233

CHECK SUM ERROR IN READING SIGMA TABLE ENT

4F1D7170

BCD 3RY FROM DRUM 2.

LOCATIONS OF STAE B,C,D CALLS IN 8K SECTION ONE.

16713 676767676767  
16714 000006040102  
16715 606060606060  
16716 634646604421  
16717 457060233021  
16720 512123632551  
16721 626031456062  
16722 704422464333

BCD 8XXXXXX006412

TOO MANY CHARACTERS IN SYMBOL.

16723 676767676767  
16724 000006040605  
16725 606060606060  
16726 314343252721  
16727 436064622560  
16730 462660603360  
16731 602330215121

BCD 8XXXXXX006465

ILLEGAL USE OF . CHARACTER.

16732 236325513360

16733 676767676767

16734 000006040706

16735 606060606060

16736 215127512527

16737 606231712560

16740 256723252524

16741 252433606060

16742 676767676767

16743 000006050000

16744 606060606060

16745 314343252721

16746 436064622560

16747 462660304643

16750 432551316330

16751 606247252331

16752 263123216331

16753 464533606060

16754 676767676767

16755 000006050307

16756 606060606060

16757 454645407125

16760 514660432565

16761 254360512524

16762 642363314645

16763 336060606060

16764 676767676767

16765 000006050504

16766 606060606060

16767 314343252721

16770 436064622560

16771 462660601360

16772 606231274533

16773 606060606060

16774 676767676767

16775 000006060007

16776 606060606060

16777 314343252721

17000 436064622560

17001 462660603360

17002 606231274533

17003 606060606060

17004 676767676767

17005 000006070301

17006 606060606060

17007 633025604564

17010 442551312360

17011 234645635146

BCD 7XXXXXX006476

ARGREG SIZE EXCEEDED.

BCD XXXXXX006500

ILLEGAL USE OF HOLLERITH SPECIFICATION.

BCD 8XXXXXX006537

NON-ZERO LEVEL REDUCTION.

BCD 8XXXXXX006554

ILLEGAL USE OF = SIGN.

BCD 8XXXXXX006607

ILLEGAL USE OF . SIGN.

BCD XXXXXX006731

THE NUMERIC CONTROL OF A HOLLERITH TEXT IS



17012 436046266021  
17013 603046434325  
17014 513163306063  
17015 256763603162

17016 432151272551  
17017 606330214560  
17020 633025604564  
17021 442225516046  
17022 266023302151  
17023 212363255162  
17024 602646434346  
17025 663145276063  
17026 302560303360

BCD 9LARGER THAN THE NUMBER OF CHARACTERS FOLLOWING THE H.

17027 676767676767  
17030 000007000201  
17031 606060606060  
17032 432144222421  
17033 606321224325  
17034 606231712560  
17035 256723252524  
17036 252433606060

BCD 8XXXXXX007021

LAMBDA TABLE SIZE EXCEEDED.

17037 676767676767  
17040 000007000203  
17041 606060606060  
17042 222563216063  
17043 212243256062  
17044 317125602567  
17045 232525242524  
17046 336060606060

BCD 8XXXXXX007023

BETA TABLE SIZE EXCEEDED.

17047 676767676767  
17050 000007000206  
17051 606060606060  
17052 214347302160  
17053 632122432560  
17054 623171256025  
17055 672325252425  
17056 243360606060

BCD 8XXXXXX007026

ALPHA TABLE SIZE EXCEEDED.

17057 676767676767  
17060 000007050302  
17061 606060606060  
17062 264346216331  
17063 452760474631  
17064 456360234645  
17065 626321456360  
17066 466463623124  
17067 256051214527  
17070 256046266044

BCD XXXXXX007532

FLOATING POINT CONSTANT OUTSIDE RANGE OF M

17071 212330314525

BCD 2ACHINE.

17072 336060606060

17073 676767676767

17074 000100050304

17075 606060606060

17076 233025234260

17077 626444602551

17100 514651603145

17101 605125212431

17102 452760263167

17103 252460474631

17104 456360234645

17105 626321456360

17106 265146446024

17107 516444600233

BCD XXXXXX010534

CHECK SUM ERROR IN READING FIXED POINT CON

BCD 3STANT FROM DRUM 2.

17110 676767676767

17111 000101020106

17112 606060606060

17113 443167252460

17114 256747512562

17115 623146453360

BCD 6XXXXXX011216

MIXED EXPRESSION.

17116 676767676767

17117 000101020200

17120 606060606060

17121 443167252460

17122 256747512562

17123 623146453360

BCD 6XXXXXX011220

MIXED EXPRESSION.

17124 676767676767

17125 000102070500

17126 606060606060

17127 233025234260

17130 626444602551

17131 514651603145

17132 605125212431

17133 452760623127

17134 442160632122

17135 432560254563

17136 517060265146

17137 446024516444

17140 600233606060

BCD XXXXXX012750

CHECK SUM ERROR IN READING SIGMA TABLE ENT

BCD 3RY FROM DRUM 2.

INITIALIZATION RECORD F015.

17141 676767676767

17142 000000050503

17143 606060606060

17144 263165256023

17145 464562252364

17146 633165256026

BCD XXXXXX000553

FIVE CONSECUTIVE FAILURES IN ATTEMPTING TO4F1D7240

4F1D7200

4F1D7210

4F1D7220

4F1D7230

4F1D7240

17147 213143645125  
17150 626031456021  
17151 636325444763  
17152 314527606346  
17153 606651316325  
17154 606263216325  
17155 602160462660  
17156 622523633146  
17157 456046452560  
17160 464560245164  
17161 446001336060

BCD 7 WRITE STATE A OF SECTION ONE ON DRUM 1.

4F1D7250

17162 676767676767  
17163 000000050600  
17164 606060606060  
17165 263165256023  
17166 464562252364  
17167 633165256026  
17170 213143645125  
17171 626031456021  
17172 636325444763  
17173 314527606346  
17174 606651316325  
17175 606263216325  
17176 602460462660  
17177 622523633146  
17200 456046452560  
17201 464560245164  
17202 446002336060

BCD XXXXXX000560

FIVE CONSECUTIVE FAILURES IN ATTEMPTING TO4F1D7270

4F1D7260

17203 676767676767  
17204 000000050603  
17205 606060606060  
17206 263165256023  
17207 464562252364  
17210 633165256026  
17211 213143645125  
17212 626031456021  
17213 636325444763  
17214 314527606346  
17215 606651316325  
17216 606263216325  
17217 602260462660  
17220 622523633146  
17221 456046452560  
17222 464560245164  
17223 446003336060

BCD XXXXXX000563

FIVE CONSECUTIVE FAILURES IN ATTEMPTING TO4F1D7300

4F1D7290

17224 676767676767  
17225 000000050606  
17226 606060606060  
17227 263165256023  
17230 464562252364  
17231 633165256026

BCD XXXXXX000566

FIVE CONSECUTIVE FAILURES IN ATTEMPTING TO4F1D7330

4F1D7320

17232 213143645125  
17233 626031456021  
17234 636325444763  
17235 314527606346  
17236 606651316325  
17237 606263216325  
17240 602360462660  
17241 622523633146  
17242 456046452560  
17243 464560245164  
17244 446004336060

BCD 7 WRITE STATE C OF SECTION ONE ON DRUM 4.

4F1D7340

17245 6767676767  
17246 6767676767

BCD 2XXXXXXXXXXXX

4F1D7350  
4F1D7360

A

00000

END

4F1D7370

1/2

1  
1

REM 704 FORTRAN MASTER RECORD CARD / 1 PRIME PART A = F0220000. F1P00010  
704 FORTRAN MASTER RECORD CARD / 1 PRIME PART A = F0220000.

00000 0 01146 0 01146  
00001 0 00000 0 03161

ORG 0  
PZE ORG1PA,,ORG1PA  
PZE END1PA-1

THIS IS PART A OF 2 PARTS OF SECTION ONE PRIME

01146 0 76100 0 00000  
01147 0 77000 0 00204 PARTA

ORG 614  
NOP  
WEF 4

TO PERMIT STOP FOR TESTING RUNS.

TABLE SAVING PROGRAM  
WRITE FIXCON WORD COUNT ON DRUM

01150 0 76600 0 00302  
01151 0 50000 0 00414  
01152 0 77100 0 00021  
01153 0 60100 0 02107  
01154 0 70000 0 02107  
01155 0 70000 0 02107

WRS 194  
CLA FXCNIX-3  
ARS 17  
STO WORKCL  
CPY WORKCL  
CPY WORKCL

PROGRAM FOR SAVING COMPAIL TABLE

01156 -0 53400 2 00637

LXD BBOX,2  
TXH A1PTS,2,0

STOP FOR NO INSTRUCTIONS COMPILED

01157 3 00000 2 01161

TSX DIAG,4

SAVE  
CIT  
BUFFER

01160 0 07400 4 00004

WRS 147

01161 0 76600 0 00223 A1PTS

LXA L(0),1

01162 0 53400 1 07730

CPY CIB,1

01163 0 70000 1 00640 AA3PTS

TXI AA1PTS,1,-1

01164 1 77777 1 01165

TXI AA2PTS,2,1

01165 1 00001 2 01166 AA1PTS

TXH AA3PTS,2,0

01166 3 00000 2 01163 AA2PTS

WEF 147

01167 0 77000 0 00223

REW 147

TURN OFF TAPE CHECK  
INDICATOR AND LIGHTS

01170 0 77200 0 00223

RTT

01171 -0 76000 0 00012 A5PTS

NOP

01172 0 76100 0 00000

LXA L(4),1

01173 0 53400 1 07734

LXA L(0),4

01174 0 53400 4 07730

RDS 147

COPY A RECORD OF COMPILED  
INSTRUCTIONS INTO STORAGE  
EOF  
EOR

01175 0 76200 0 00223 A14PTS

CPY COMP,4

01176 0 70000 4 03163 A6PTS

TXI A6PTS,4,-1

01177 1 77777 4 01176

TRA A10PTS

01200 0 02000 0 01222

WRS 219

01201 0 76600 0 00333

RTT

01202 -0 76000 0 00012

TRA A11PTS

01203 0 02000 0 01217

WRS 146

01204 0 76600 0 00222

CLA CMPREC

01205 0 50000 0 02245

ADD L(1)

01206 0 40000 0 07731

STO CMPREC

01207 0 60100 0 02245

LXA L(2),1

01210 0 53400 1 07732

LXA L(0),2

01211 0 53400 2 07730

CPY COMP,2

01212 0 70000 2 03163 A9PTS

TXI A7PTS,2,-1

01213 1 77777 2 01214

TXI A8PTS,4,1

01214 1 00001 4 01215 A7PTS

TXH A9PTS,4,0

01215 3 00000 4 01212 A8PTS

TRA A14PTS

01216 0 02000 0 01175

BST 147,0,1

PREPARE TO READ RECORD AGAIN

F1P00010  
F1P00020  
F1P00030  
F1P00040  
F1P00050  
F1P00060  
F1P00070  
F1P00080  
F1P00090  
F1P00100  
F1P00110  
F1P00120  
F1P00130  
F1P00140  
F1P00150  
F1P00160  
F1P00170  
F1P00180  
F1P00190  
F1P00200  
F1P00210  
F1P00220  
F1P00230  
F1P00240  
F1P00250  
F1P00260  
F1P00270  
F1P00280  
F1P00290  
F1P00300  
F1P00310  
F1P00320  
F1P00330  
F1P00340  
F1P00350  
F1P00360  
F1P00370  
F1P00380  
F1P00390  
F1P00400  
F1P00410  
F1P00420  
F1P00430  
F1P00440  
F1P00450  
F1P00460  
F1P00470  
F1P00480  
F1P00490  
F1P00500  
F1P00510  
F1P00520  
F1P00530

01220	2	00001	1	01174	TIX A14PTS-1,1,1	TEST FOR 2 TAPE CHECKS.	F1P00540
01221	0	07400	4	00004	TSX DIAG,4	STOP FOR 5TH READ CHECK	F1P00550
01222	0	77000	0	00222	WEF 146	END OF COMPAIL ON TAPE 2	F1P00560
01223	0	76600	0	00222	WRS 146		F1P00570
01224	0	70000	0	02245	CPY CMPREC		F1P00580
					PROGRAM TO SAVE FORSUB TABLE		F1P00590
01225	-0	53400	1	00470	LXD BK,1		F1P00600
01226	-3	00000	1	01234	TXL WEF,1,0	TEST FOR EMPTY TABLE	F1P00610
01227	0	53400	2	07730	LXA L(0),2		F1P00620
01230	0	70000	2	00471	CPY FORSUB,2		F1P00630
01231	1	77777	2	01232	TXI A15PTS,2,-1		F1P00640
01232	1	00001	1	01233	TXI A15PTS+1,1,1		F1P00650
01233	3	00000	1	01230	TXH A15PTS-2,1,0		F1P00660
01234	0	77000	0	00222	WEF 146		F1P00670
					PROGRAM FOR SAVING FLOCON TABLE		F1P00680
01235	-0	53400	4	00421	LXD FLCNIX-3,4 (N)		F1P00690
01236	-0	75400	4	00000	PXD 0,4		F1P00700
01237	0	77100	0	00022	ARS 18		F1P00710
01240	0	60100	0	02244	STO FLSIZE	LOAD FLSIZE WITH N	F1P00720
01241	-3	00000	4	01276	TXL FL09,4,0	IS TABLE EMPTY	F1P00730
01242	-0	50000	0	07742	CAL MSK		F1P00740
01243	0	32000	0	00422	ANS FLCNIX-2		F1P00750
01244	0	32000	0	00421	ANS FLCNIX-3		F1P00760
01245	0	50000	0	00421	CLA FLCNIX-3	GET NUMBER OF WORDS IN FLOCON INCLUDING CK SUMS	F1P00770
01246	0	40200	0	00422	SUB FLCNIX-2		F1P00780
01247	0	62100	0	01256	STA FL04	SAVE L	F1P00790
01250	0	53400	2	07735	LXA L(5),2	SET TO TRY FIVE TIMES IF CK SUM FAILS	F1P00800
01251	0	53400	4	01256	LXA FL04,4 (L)		F1P00810
01252	0	76200	0	00302	RDR 2		F1P00820
01253	0	46000	0	00422	LDA FLCNIX-2		F1P00830
01254	0	70000	4	05453	CPY OTA+450,4	COPY FLOCON FROM DRUM	F1P00840
01255	2	00001	4	01254	TIX FL03,4,1		F1P00850
01256	-0	75400	0	00000	PXD **,0		F1P00860
01257	0	53400	4	01256	LXA FL04,4	COMPUTE CK SUM OF ENTRIES VERSUS CK SUM OF CK	F1P00870
01260	0	53400	1	07737	LXA L(50),1	SUMS. TABLE IS OF FORM A CK SUM FOR FIFTY WORDS	F1P00880
01261	0	36100	4	05453	ACL OTA+450,4	FOLLOWED BY THE FIFTY WORDS	F1P00890
01262	0	76000	0	00006	COM		F1P00900
01263	-2	00001	4	01307	TXN ERROR,4,1		F1P00910
01264	0	36100	4	05453	ACL OTA+450,4		F1P00920
01265	-2	00001	4	01271	TXN FL07,4,1	FINAL ENRTY , GET OUT OF CK SUM LOOP	F1P00930
01266	2	00001	1	01264	TIX FL06,1,1		F1P00940
01267	0	76000	0	00006	COM		F1P00950
01270	1	00061	1	01261	TXI FL05,1,49		F1P00960
01271	0	76000	0	00006	COM		F1P00970
01272	0	10000	0	01275	TZE FL08	TEST CK SUM	F1P00980
01273	2	00001	2	01251	TIX FL02,2,1	CK SUM FAILED, TRY AGAIN	F1P00990
01274	0	07400	4	00004	TSX DIAG,4	CK SUM FAILED FIVE TIMES	F1P01000
01275	0	53400	4	01256	LXA FL04,4 (L)		F1P01010
01276	0	76600	0	00222	WTB 2		F1P01020
01277	0	70000	0	02244	CPY FLSIZE		F1P01030
01300	-3	00000	4	01310	TXL PROFOR,4,0	IS FLOCON EMPTY	F1P01040
01301	0	53400	1	07737	LXA L(50),1		F1P01050
01302	-2	00001	4	01307	TXN ERROR,4,1		F1P01060
01303	0	70000	4	05453	CPY OTA+450,4		F1P01070

01304	-2	00001	4	01310	TNX	PROFOR,4,1	FINISHED, GET OUT OF LOOP	
01305	2	00001	1	01303	TIX	FL11,1,1		
01306	1	00061	1	01302	TXI	FL10,1,49		
01307	0	07400	4	00004	TSX	DIAG,4	INDEX RAN OUT AT CK. <del>=====</del>	
							ROUTINE TO PROCESS FORMAT TABLE	
01310	0	07400	1	07505	PROFOR	TSX	TAP00,1	
01311	0	00000	0	00012	HTR	10		
01312	0	00000	0	04551		OTA		
01313	0	07400	1	07656	TSX	WAT00,1		
01314	0	00000	0	00012	HTR	10		
01315	0	00000	0	04551		OTA		
							ROUTINE TO CONVERT DIM TABLES TO SIZ TABLE.	
01316	-0	53400	4	00452	ADD00	LXD	DIM1IX-3,4	ENTRY COUNT
01317	-3	00000	4	01346	TXL	ADD07,4,0	TABLE EMPTY	
01320	0	53400	2	07735	ADD01	LXA	L(5),2	
01321	0	76200	0	00303	ADD02	RDR	3	
01322	0	53400	1	07730		LXA	L(0),1	
01323	0	46000	0	00453		LDA	ORGDM1	
01324	-0	75400	0	00000		PXD	0,0	
01325	0	70000	1	04551	ADD03	CPY	OTA,1	COPY NAME
01326	0	70000	1	04552		CPY	OTA+1,1	COPY N1
01327	1	77776	1	01330		TXI	ADD04,1,-2	
01330	-0	70000	0	02106	ADD04	CAD	GARBGE	COPY AND SUM CK SUMS
01331	2	00001	4	01325		TIX	ADD03,4,1	
01332	0	76000	0	00006		COM		
01333	-0	53400	4	00452		LXD	DIM1IX-3,4	
01334	0	53400	1	07730		LXA	L(0),1	
01335	0	36100	1	04551	ADD05	ACL	OTA,1	SUM ENTRIES
01336	0	36100	1	04552		ACL	OTA+1,1	
01337	1	77776	1	01340		TXI	ADD06,1,-2	
01340	2	00001	4	01335	ADD06	TIX	ADD05,4,1	
01341	0	76000	0	00006		COM		
01342	0	10000	0	01347		TZE	ADD08	
01343	-0	53400	4	00452		LXD	DIM1IX-3,4	CHECK SUM ERROR, TRY AGAIN
01344	2	00001	2	01321		TIX	ADD02,2,1	
01345	0	07400	4	00004		TSX	DIAG,4	REPEATED CK SUM ERRORS IN <del>=====</del> ING DRUM
01346	0	53400	1	07730	ADD07	LXA	L(0),1	
01347	-0	63400	1	02110	ADD08	SXD	NEWBAS,1	
							NOW READ DIM2 TABLE	
01350	-0	53400	4	00457		LXD	DIM2IX-3,4	
01351	-3	00000	4	01413	TXL	ADD18,4,0	TABLE EMPTY	
01352	0	53400	2	07735	ADD09	LXA	L(5),2	
01353	0	76200	0	00303	ADD10	RDR	3	
01354	-0	53400	1	02110		LXD	NEWBAS,1	
01355	0	46000	0	00460		LDA	ORGDM2	
01356	-0	75400	0	00000		PXD	0,0	
01357	0	70000	1	04551	ADD11	CPY	OTA,1	COPY NAME
01360	0	70000	1	04552		CPY	OTA+1,1	COPY N1 N2
01361	1	77776	1	01362		TXI	ADD12,1,-2	
01362	-0	70000	0	02106	ADD12	CAD	GARBGE	COPY AND SUM CK SUMS
01363	2	00001	4	01357		TIX	ADD11,4,1	
01364	0	76000	0	00006		COM		
01365	-0	53400	4	00457		LXD	DIM2IX-3,4	
01366	-0	53400	1	02110		LXD	NEWBAS,1	

F1P01080  
 F1P01090  
 F1P01100  
 F1P01110  
 F1P01120  
 F1P01130  
 F1P01140  
 F1P01150  
 F1P01160  
 F1P01170  
 F1P01180  
 F1P01190  
 F1P01200  
 F1P01210  
 F1P01220  
 F1P01230  
 F1P01240  
 F1P01250  
 F1P01260  
 F1P01270  
 F1P01280  
 F1P01290  
 F1P01300  
 F1P01310  
 F1P01320  
 F1P01330  
 F1P01340  
 F1P01350  
 F1P01360  
 F1P01370  
 F1P01380  
 F1P01390  
 F1P01400  
 F1P01410  
 F1P01420  
 F1P01430  
 F1P01440  
 F1P01450  
 F1P01460  
 F1P01470  
 F1P01480  
 F1P01490  
 F1P01500  
 F1P01510  
 F1P01520  
 F1P01530  
 F1P01540  
 F1P01550  
 F1P01560  
 F1P01570  
 F1P01580  
 F1P01590  
 F1P01600  
 F1P01610

01367	0	36100	1	04551	ADD13	ACL	OTA,1		F1P01620
01370	0	36100	1	04552		ACL	OTA+1,1		F1P01630
01371	1	77776	1	01372		TXI	ADD14,1,-2		F1P01640
01372	2	00001	4	01367	ADD14	TIX	ADD13,4,1		F1P01650
01373	0	76000	0	00006		COM			F1P01660
01374	0	10000	0	01400		TZE	ADD15		F1P01670
01375	-0	53400	4	00457		LXD	DIM2IX-3,4	CK SUM ERROR TRY AGAIN	F1P01680
01376	2	00001	2	01353		TIX	ADD10,2,1		F1P01690
01377	0	07400	4	00004		TSX	DIAG,4	REPEATED CK SUM ERRORS IN READING DRUM	F1P01700
01400	-0	53400	4	00457	ADD15	LXD	DIM2IX-3,4		F1P01710
01401	-0	53400	1	02110		LXD	NEWBAS,1		F1P01720
01402	0	60000	0	02107		STZ	WORKCL		F1P01730
01403	0	50000	1	04552	ADD16	CLA	OTA+1,1		F1P01740
01404	0	62100	0	02107		STA	WORKCL		F1P01750
01405	0	76500	0	00065		LRS	53		F1P01760
01406	0	20000	0	02107		MPY	WORKCL	N1*N2	F1P01770
01407	-0	60000	1	04552		STQ	OTA+1,1		F1P01780
01410	1	77776	1	01411		TXI	ADD17,1,-2		F1P01790
01411	2	00001	4	01403	ADD17	TIX	ADD16,4,1		F1P01800
01412	-0	63400	1	02110		SXD	NEWBAS,1	UPDATE NEWBAS FOR DIM3 ROUTINE	F1P01810
								NOW READ DIM3 TABLE.	F1P01820
01413	-0	53400	4	00464	ADD18	LXD	DIM3IX-3,4		F1P01830
01414	-3	00000	4	01462		TXL	ADD28,4,0	DIM3 TABLE EMPTY	F1P01840
01415	0	53400	2	07735	ADD19	LXA	L(5),2		F1P01850
01416	0	76200	0	00303	ADD20	RDR	3		F1P01860
01417	-0	53400	1	02110		LXD	NEWBAS,1		F1P01870
01420	0	46000	0	00465		LDA	ORGDIM3		F1P01880
01421	-0	75400	0	00000		PXD	0,0		F1P01890
01422	0	70000	1	04551	ADD21	CPY	OTA,1		F1P01900
01423	0	70000	1	04552		CPY	OTA+1,1		F1P01910
01424	0	70000	4	02243		CPY	BUFFER,4		F1P01920
01425	1	77776	1	01426		TXI	ADD22,1,-2		F1P01930
01426	-0	70000	0	02106	ADD22	CAD	GARBGE		F1P01940
01427	2	00001	4	01422		TIX	ADD21,4,1		F1P01950
01430	0	76000	0	00006		COM			F1P01960
01431	-0	53400	4	00464		LXD	DIM3IX-3,4		F1P01970
01432	-0	53400	1	02110		LXD	NEWBAS,1		F1P01980
01433	0	36100	1	04551	ADD23	ACL	OTA,1		F1P01990
01434	0	36100	1	04552		ACL	OTA+1,1		F1P02000
01435	0	36100	4	02243		ACL	BUFFER,4		F1P02010
01436	1	77776	1	01437		TXI	ADD24,1,-2		F1P02020
01437	2	00001	4	01433	ADD24	TIX	ADD23,4,1		F1P02030
01440	0	76000	0	00006		COM			F1P02040
01441	0	10000	0	01445		TZE	ADD25		F1P02050
01442	-0	53400	4	00464		LXD	DIM3IX-3,4		F1P02060
01443	2	00001	2	01416		TIX	ADD20,2,1	CK SUM FAILED TRY AGAIN	F1P02070
01444	0	07400	4	00004		TSX	DIAG,4	REPEATED CK SUM ERRORS IN READING DRUM	F1P02080
01445	-0	53400	4	00464	ADD25	LXD	DIM3IX-3,4		F1P02090
01446	-0	53400	1	02110		LXD	NEWBAS,1		F1P02100
01447	0	50000	1	04552	ADD26	CLA	OTA+1,1		F1P02110
01450	0	60000	0	02107		STZ	WORKCL		F1P02120
01451	0	62100	0	02107		STA	WORKCL		F1P02130
01452	0	76500	0	00065		LRS	53		F1P02140
01453	0	20000	0	02107		MPY	WORKCL	N1*N2	F1P02150



01454	0	20000	4	02243	MPY BUFFER,4	N3*(N1*N2)	F1P02160
01455	-0	60000	1	04552	STQ OTA+1,1		F1P02170
01456	1	77776	1	01457	TXI ADD27,1,-2		F1P02180
01457	2	00001	4	01447	TIX ADD26,4,1		F1P02190
01460	0	76100	0	00000	NOP	NOT USED.	F1P02200
01461	0	76100	0	00000	NOP	NOT USED.	F1P02210
					NOW WRITE SIZ TABLE ON TAPE 2.		F1P02220
01462	-0	75400	1	00000	ADD28 PXD 0,1		F1P02230
01463	0	76000	0	00006	COM		F1P02240
01464	0	40000	0	07740	ADD DECR1		F1P02250
01465	-0	73400	4	00000	PDX 0,4		F1P02260
01466	-0	75400	4	00000	PXD 0,4		F1P02270
01467	0	77100	0	00022	ARS 18		F1P02280
01470	0	60100	0	02107	STO WORKCL		F1P02290
01471	0	40000	0	07731	ADD L(1)		F1P02300
01472	0	73400	1	00000	PAX 0,1		F1P02310
01473	0	53400	2	07730	LXA L(0),2		F1P02320
01474	-0	75400	0	00000	PXD 0,0		F1P02330
01475	0	36100	2	04551	ADD33 ACL OTA,2	COMPUTE CK SUM FOR SIZ TABLE	F1P02340
01476	1	77777	2	01477	TXI ADD32,2,-1		F1P02350
01477	2	00001	4	01475	ADD32 TIX AOD33,4,1		F1P02360
01500	0	60200	2	04551	SLW OTA,2		F1P02370
01501	0	50000	0	02101	CLA DMASK		F1P02380
01502	0	32000	0	00030	ANS EIFNO		F1P02390
01503	0	76600	0	00222	WTB 2		F1P02400
01504	0	70000	0	00030	CPY EIFNO		F1P02410
01505	0	70000	0	02107	CPY WORKCL		F1P02420
01506	-3	00001	1	01513	TXL ADD31,1,1		F1P02430
01507	0	53400	2	07730	LXA L(0),2		F1P02440
01510	0	70000	2	04551	ADD29 CPY OTA,2		F1P02450
01511	1	77777	2	01512	TXI ADD30,2,-1		F1P02460
01512	2	00001	1	01510	ADD30 TIX ADD29,1,1		F1P02470
01513	0	77000	0	00202	ADD31 WEF 2		F1P02480
01514	0	76600	0	00222	WTB 2	WRITE SENSE SWITCH SETTINGS AS RE-	F1P02490
01515	0	53400	1	07735	LXA L(5),1	CORD ONE, FILE FIVE, TAPE TWO	F1P02500
01516	0	70000	1	00036	X0010 CPY ENDI1+5,1		F1P02510
01517	2	00001	1	01516	TIX X0010,1,1		F1P02520
01520	0	07400	1	07505	TSX TAP00,1	ASSEMBLE AND WRITE SUBDEF TABLE	F1P02530
01521	0	00000	0	00013	11		F1P02540
01522	0	00000	0	04551	OTA		F1P02550
01523	0	07400	1	07656	TSX WAT00,1		F1P02560
01524	0	00000	0	00013	11		F1P02570
01525	0	00000	0	04551	OTA		F1P02580
01526	0	07400	1	07505	TSX TAP00,1	ASSEMBLE AND WRITE COMMON TABLE	F1P02590
01527	0	00000	0	00014	12		F1P02600
01530	0	00000	0	04551	OTA		F1P02610
01531	0	07400	1	07656	TSX WAT00,1		F1P02620
01532	0	00000	0	00014	12		F1P02630
01533	0	00000	0	04551	OTA		F1P02640
01534	0	07400	1	07505	TSX TAP00,1	ASSEMBLE AND WRITE TABLE OF HOLLERITH ARGS	F1P02650
01535	0	00000	0	00015	13		F1P02660
01536	0	00000	0	04551	OTA		F1P02670
01537	0	07400	1	07656	TSX WAT00,1		F1P02680
01540	0	00000	0	00015	13		F1P02690

01541	0	00000	0	04551		OTA
01542	0	07400	1	07505		TSX TAP00,1
01543	0	00000	0	00000		HTR 0
01544	0	00000	0	04551		HTR OTA
01545	0	60000	0	02105		STZ PAT15
01546	-0	53400	4	04550		LXD OTA-1,4
01547	-3	00001	4	01606		TXL WRITE,4,1
01550	-0	53400	1	02103		LXD PAT13,1
01551	-0	63400	4	02104		SXD PAT14,4
01552	-0	53400	4	02104	ISPLUS	LXD PAT14,4
01553	0	50000	1	04551	NEXT	CLA OTA,1
01554	0	12000	0	01561		TPL MASK
01555	0	60200	1	04551		SLW OTA,1
01556	1	77777	1	01557		TXI ISTHRU,1,-1
01557	2	00001	4	01553	ISTHRU	TIX NEXT,4,1
01560	0	02000	0	01606		TRA WRITE
01561	0	62100	0	02105	MASK	STA PAT15
01562	1	77777	1	01563		TXI RECOMP,1,-1
01563	-0	75400	1	00000	RECOMP	PXD 0,1
01564	-0	73400	2	00000		PDX 0,2
01565	-2	00001	4	01606		TXN WRITE,4,1
01566	-0	63400	4	02104		SXD PAT14,4
01567	0	50000	2	04551	PAT16	CLA OTA,2
01570	-0	12000	0	01575		TMI NODUP
01571	-0	32000	0	02102		ANA PAT11
01572	0	34000	0	02105		CAS PAT15
01573	0	02000	0	01575		TRA NODUP
01574	0	02000	0	01600		TRA PAT9
01575	1	77777	2	01576	NODUP	TXI PAT8,2,-1
01576	2	00001	4	01567	PAT8	TIX PAT16,4,1
01577	0	02000	0	01552		TRA ISPLUS
01600	0	50000	2	04551	PAT9	CLA OTA,2
01601	-0	76000	0	00003		SSM
01602	0	60100	2	04551		STO OTA,2
01603	0	50200	1	04550		CLS OTA-1,1
01604	0	60100	1	04550		STO OTA-1,1
01605	0	02000	0	01552		TRA ISPLUS
01606	0	07400	1	07656	WRITE	TSX WAT00,1
01607	0	00000	0	00000		HTR 0
01610	0	00000	0	04551		OTA
01611	0	07400	1	07505		TSX TAP00,1
01612	0	00000	0	00002		HTR 2
01613	0	00000	0	03163	L(2TA)	HTR 2TA
01614	0	50000	0	03162	MFGTP	CLA 2TA-1
01615	0	10000	0	01751		TZE WFG00
01616	-0	73400	2	00000		PDX 0,2
01617	0	77100	0	00022		ARS 18
01620	0	40000	0	01613		ADD L(2TA)
01621	0	62100	0	01646		STA MFG00
01622	0	62100	0	01663		STA MFG03
01623	0	62100	0	01665		STA MFG05
01624	0	62100	0	01701		STA MFG08

ASSEMBLE TEIFNO FROM TAPE 4

INSURE DECREMENT IS CLEAR  
 LENGTH OF TEIFNO INTO I.R.4  
 IS TEIFNO EMPTY OR IS THERE A SINGLE ENTRY  
 INITIALIZE I.R. TO STEP THROUGH TABLE  
 SAVE WORD COUNT  
 REINITIALIZE FOR FURTHER SEARCHING  
 PICK UP NEXT ENTRY IN TEIFNO  
 HAS THIS BEEN PROCESSED

NO, SET I.R. TO LOOK AT NEXT ENTRY  
 HAVE ALL ENTRIES BEEN EXAMINED  
 YES, FINISHED  
 STORE COMPERAND  
 SET I.R.S TO START COMPARISON

HAVE ALL ENTRIES BEEN EXAMINED  
 SAVE NUMBER OF ENTRIES YET TO BE TREATED  
 PICK UP ENTRY TO BE COMPARED  
 NO SEARCH NECESSARY IF NEGATIVE  
 ISOLATE EXTERNAL FORMULA NUMBER  
 COMPARE TO REMAINING ENTRIES  
 NO DUPLICATE  
 DUPLICATE  
 NO DUPLICATE, SET I.R. TO OBTAIN NEXT ENTRY  
 FOR COMPARISON  
 HAVE ALL ENTRIES BEEN COMPARED  
 YES  
 FLAG DUPLICATE ENTRY NEGATIVE

WRITE TEIFNO ON TAPE

ASSEMBLE TIFGO

START PROGRAM FOR MODIFICATION OF TIFGO WITH TEIFNO  
 GET NUMBER OF WORDS IN 2TA.  
 EXIT FOR NO ENTRIES IN TABLE.  
 SET INDEX B TO NUMBER OF WORDS.  
 COMPUTE  
 2TA  
 PLUS  
 NUMBER  
 OF  
 WORDS

F1P02700  
 F1P02710  
 F1P02720  
 F1P02730  
 F1P02740  
 F1P02750  
 F1P02760  
 F1P02770  
 F1P02780  
 F1P02790  
 F1P02800  
 F1P02810  
 F1P02820  
 F1P02830  
 F1P02840  
 F1P02850  
 F1P02860  
 F1P02870  
 F1P02880  
 F1P02890  
 F1P02900  
 F1P02910  
 F1P02920  
 F1P02930  
 F1P02940  
 F1P02950  
 F1P02960  
 F1P02970  
 F1P02980  
 F1P02990  
 F1P03000  
 F1P03010  
 F1P03020  
 F1P03030  
 F1P03040  
 F1P03050  
 F1P03060  
 F1P03070  
 F1P03080  
 F1P03090  
 F1P03100  
 F1P03110  
 F1P03120  
 F1P03130  
 F1P03140  
 F1P03150  
 F1P03160  
 F1P03170  
 F1P03180  
 F1P03190  
 F1P03200  
 F1P03210  
 F1P03220  
 F1P03230

01625	0	62100	0	01702	STA MFG09
01626	0	62100	0	01716	STA MFG12
01627	0	62100	0	01740	STA MFG18
01630	0	62100	0	01747	STA MFG20
01631	0	50000	0	04550	CLA OTA-1
01632	-0	10000	0	01634	TNZ MFGOK
01633	0	02000	0	07751	TRA TEIFER
01634	0	77100	0	00022	MFGOK ARS 18
01635	0	40000	0	07750	ADD L(OTA)
01636	0	62100	0	01652	STA MFG01
01637	0	62100	0	01661	STA MFG02
01640	0	62100	0	01670	STA MFG06
01641	0	62100	0	01677	STA MFG07
01642	0	62100	0	01706	STA MFG10
01643	0	62100	0	01715	STA MFG11
01644	0	62100	0	01736	STA MFG17
01645	0	62100	0	01745	STA MFG19
01646	0	50000	2	00000	MFG00 CLA 0,2
01647	0	12000	0	01722	TPL MFG14
01650	0	62100	0	07746	STA E3
01651	-0	53400	4	04550	LXD OTA-1,4
01652	0	50000	4	00000	MFG01 CLA 0,4
01653	-0	32000	0	07742	ANA MSK
01654	0	40200	0	07746	SUB E3
01655	0	10000	0	01661	TZE MFG02
01656	2	00001	4	01652	TIX MFG01,4,1
01657	0	50000	0	02103	CLA PAT13
01660	0	02000	0	01663	TRA MFG03
01661	0	50000	4	00000	MFG02 CLA 0,4
01662	0	77100	0	00022	ARS 18
01663	0	62100	2	00000	MFG03 STA 0,2
01664	1	77777	2	01665	MFG04 TXI MFG05,2,-1
01665	0	50000	2	00000	MFG05 CLA 0,2
01666	0	62100	0	07746	STA E3
01667	-0	53400	4	04550	LXD OTA-1,4
01670	0	50000	4	00000	MFG06 CLA 0,4
01671	-0	32000	0	07742	ANA MSK
01672	0	40200	0	07746	SUB E3
01673	0	10000	0	01677	TZE MFG07
01674	2	00001	4	01670	TIX MFG06,4,1
01675	0	50000	0	02103	CLA PAT13
01676	0	02000	0	01701	TRA MFG08
01677	0	50000	4	00000	MFG07 CLA 0,4
01700	0	77100	0	00022	ARS 18
01701	0	62100	2	00000	MFG08 STA 0,2
01702	0	50000	2	00000	MFG09 CLA 0,2
01703	0	77100	0	00022	ARS 18
01704	0	62100	0	07746	STA E3
01705	-0	53400	4	04550	LXD OTA-1,4
01706	0	50000	4	00000	MFG10 CLA 0,4
01707	-0	32000	0	07742	ANA MSK
01710	0	40200	0	07746	SUB E3
01711	0	10000	0	01715	TZE MFG11
01712	2	00001	4	01706	TIX MFG10,4,1

IN  
2TA  
AND  
INITIALIZE ADDRESSES  
GET NUM WORDS IN OTA  
TABLE EXISTS  
STOP FOR NO TABLE IN OTA  
NUMBER WORDS PUT IN AC ADDRESS  
ADD OTA ORIGIN  
INITIALIZE ADDRESSES WITH  
OTA + NUM WORDS

F1P03240
F1P03250
F1P03260
F1P03270
F1P03280
F1P03290
F1P03300
F1P03310
F1P03320
F1P03330
F1P03340
F1P03350
F1P03360
F1P03370
F1P03380
F1P03390
F1P03400
ADDR IS 2TA + NUM WORDS IN 2TA. (1)F1P03410
SIGN IS PLUS. F1P03420
SAVE A1. F1P03430
SET INDEX C TO NUM WORDS IN OTA.(2)F1P03440
A1 PRIME AND A1 GO TO AC. F1P03450
ERASE A1 PRIME IN AC. F1P03460
COMPARE TEIFNO ARGUMENT WITH A1. F1P03470
A1 EQUALS ARGUMENT. F1P03480
COMP A1 VS NEXT TEIFNO ENTRY. (3A1)F1P03490
F1P03500
F1P03510
F1P03520
F1P03530
F1P03540
F1P03550
F1P03560
F1P03570
F1P03580
F1P03590
F1P03600
F1P03610
F1P03620
F1P03630
F1P03640
F1P03650
F1P03660
F1P03670
F1P03680
F1P03690
F1P03700
F1P03710
F1P03720
F1P03730
F1P03740
F1P03750
F1P03760
F1P03770

A1 PRIME AND A1 GO TO AC.  
A1 PRIME GOES TO ADDRESS OF AC  
(1) A1 PRIME REPLACES A1  
TAKE WORD 2 OF TIFGO ENTRY  
(1). AC DECR IS A2, ADDR IS A3  
SAVE A3  
(2)  
A3 PRIME AND A3 GO TO AC  
ERASE A3 PRIME IN AC  
COMPARE TEIFNO ARGUMENT WITH A3  
A3 EQUALS ARGUMENT  
(3A3)  
  
A3 PRIME AND A3 GO TO AC  
A3 PRIME GOES TO ADDR OF AC  
(1). A3 PRIME REPLACES A3  
(1). A2 AND A3 PRIME GO TO AC  
A2 GOES TO ADDR OF AC.  
SAVE A2  
(2)  
A2 PRIME AND A2 GO TO AC  
ERASE A2 PRIME IN AC  
COMPARE TEIFNO ARGUMENT WITH A2  
A2 EQUALS ARGUMENT  
(3A2)

```

01713 0 50000 0 02103 CLA PAT13
01714 0 02000 0 01716 TRA MFG12
01715 0 50000 4 00000 MFG11 CLA 0,4
01716 0 62200 2 00000 MFG12 STD 0,2
01717 2 00001 2 01646 TIX MFG00,2,1
01720 2 00001 2 01717 MFG13 TIX MFG13-1,2,1
01721 0 02000 0 01751 TRA WFG00
01722 0 73400 4 00000 MFG14 PAX 0,4
01723 0 02000 4 01733 TRA MFG14+9,4
01724 0 02000 0 01720 TRA MFG13
01725 0 02000 0 01734 TRA MFG15
01726 0 02000 0 01664 TRA MFG04
01727 0 02000 0 01664 TRA MFG04
01730 0 02000 0 01664 TRA MFG04
01731 0 02000 0 01720 TRA MFG13
01732 0 02000 0 01720 TRA MFG13
01733 0 02000 0 01734 TRA MFG15
01734 1 77777 2 01735 MFG15 TXI MFG16,2,-1
01735 -0 53400 4 04550 MFG16 LXD OTA-1,4
01736 0 50000 4 00000 MFG17 CLA 0,4
01737 -0 32000 0 07742 ANA MSK
01740 0 40200 2 00000 MFG18 SUB 0,2
01741 0 10000 0 01745 TZE MFG19
01742 2 00001 4 01736 TIX MFG17,4,1
01743 0 50000 0 02103 CLA PAT13
01744 0 02000 0 01747 TRA MFG20
01745 0 50000 4 00000 MFG19 CLA 0,4
01746 0 77100 0 00022 ARS 18
01747 0 62100 2 00000 MFG20 STA 0,2
01750 2 00001 2 01646 TIX MFG00,2,1
01751 0 07400 1 07656 WFG00 TSX WAT00,1
01752 0 00000 0 00002 2
01753 0 00000 0 03163 HTR 2TA
01754 0 07400 1 07505 TSX TAP00,1
01755 0 00000 0 00003 HTR 3
01756 0 00000 0 03163 L(3TA) HTR 3TA

```

# PROGRAM FOR MODIFICATION OF TRAD WITH TEIFNO

```

01757 0 50000 0 03162 MTRTP CLA 3TA-1
01760 0 10000 0 02011 TZE WTR00
01761 -0 73400 2 00000 PDX 0,2
01762 0 77100 0 00022 ARS 18
01763 0 40000 0 01756 ADD L(3TA)
01764 0 62100 0 02000 STA MTR02
01765 0 62100 0 02007 STA MTR04
01766 0 50000 0 04550 CLA OTA-1
01767 -0 10000 0 01771 TNZ MTROK
01770 0 02000 0 07751 TRA TEIFER
01771 0 77100 0 00022 MTROK ARS 18
01772 0 40000 0 07750 ADD L(OTA)
01773 0 62100 0 01775 STA MTR01
01774 -0 53400 4 04550 MTR00 LXD OTA-1,4
01775 0 50000 4 00000 MTR01 CLA 0,4
01776 0 62200 0 07746 STD E3
01777 -0 32000 0 07742 ANA MSK

```

```

A2 PRIME AND A2 GO TO AC
(1) A2 PRIME REPLACES A2
TAKE FIRST WORD OF NEXT 2TA ENTRY
TAKE SECOND WORD OF 2TA ENTRY
EXIT TO TAPE WRITING PROGRAM
INTEGER N GOES TO INDEX C

```

```

N EQUALS 7 NO MODIFICATION
N EQUALS 6
N EQUALS 5
N EQUALS 4
N EQUALS 3
N EQUALS 2 NO MODIFICATION
N EQUALS 1 NO MODIFICATION
N EQUALS 0

```

```

TAKE WORD 2 OF 2TA ENTRY
(2)

```

```

K PRIME AND K GO TO AC
ERASE K PRIME

```

```

(1). COMPARE K WITH TEIFNO ARGUMENT
K EQUALS ARGUMENT
(3K)

```

```

K PRIME AND K GO TO AC
K PRIME GOES TO ADDRESS OF AC
(1). K PRIME REPLACES K
TAKE FIRST WORD OF NEXT 2TA ENTRY
WRITE 2TA ON TAPE

```

## ASSEMBLE TRAD

```

GET NUM OF WORDS IN 3TA
NO ENTRIES IN TABLE
NUMBER OF WORDS PUT IN INDEX B
RESET ADDRESSES

```

```

GET NUMBER WORDS IN OTA.
TABLE EXISTS
STOP FOR NO TABLE IN OTA
PUT NUMBER WORDS IN AC ADDRESS
ADD OTA ORIGIN
INITIALIZE ADDRESS
SET INDEX C TO NUM WORDS IN OTA
A SUB I PRIME AND A SUB I GO TO AC
SAVE A SUB I PRIME
ERASE A SUB I PRIME

```

```

F1P03780
F1P03790
F1P03800
F1P03810
F1P03820
F1P03830
F1P03840
F1P03850
F1P03860
F1P03870
F1P03880
F1P03890
F1P03900
F1P03910
F1P03920
F1P03930
F1P03940
F1P03950
F1P03960
F1P03970
F1P03980
F1P03990
F1P04000
F1P04010
F1P04020
F1P04030
F1P04040
F1P04050
F1P04060
F1P04070
F1P04080
F1P04090
F1P04100
F1P04110
F1P04120
F1P04130
F1P04140
F1P04150
F1P04160
F1P04170
F1P04180
F1P04190
F1P04200
F1P04210
F1P04220
F1P04230
F1P04240
F1P04250
F1P04260
F1P04270
F1P04280
F1P04290
F1P04300
F1P04310

```

02000	0	40200	2	00000	MTR02	SUB 0,2	ADDR IS 3TA + NUM WORDS IN 3TA (1)	F1P04320
02001	0	10000	0	02005		TZE MTR03	A SUB I EQUALS ARGUMENT	F1P04330
02002	2	00001	4	01775		TIX MTR01,4,1	A SUB I NOT EQUAL TO ARGUMENT	F1P04340
02003	0	50000	0	02103		CLA PAT13		F1P04350
02004	0	02000	0	02007		TRA MTR04		F1P04360
02005	0	50000	0	07746	MTR03	CLA E3	A SUB I PRIME GOES TO AC DECR.	F1P04370
02006	0	77100	0	00022		ARS 18	A SUB I PRIME GOES TO AC ADDR.	F1P04380
02007	0	62100	2	00000	MTR04	STA 0,2	(1). A SUB I PRIME REPLACES A SUB I	F1P04390
02010	2	00001	2	01774		TIX MTR00,2,1	TAKE NEXT WORD OF 3TA	F1P04400
02011	0	07400	1	07656	WTR00	TSX WAT00,1	ALL WORDS OF 3TA EXAMINED SO	F1P04410
02012	0	00000	0	00003		3	WRITE 3TA ON TAPE	F1P04420
02013	0	00000	0	03163		3TA		F1P04430
02014	0	07400	1	07505	AD000	TSX TAP00,1	ASSEMBLE TDO	F1P04440
02015	0	00000	0	00001		1		F1P04450
02016	0	00000	0	03163	OATDO	1TA	ORIGIN OF ASSEMBLED TDO	F1P04460
							PROGRAM FOR MODIFICATION OF TDO WITH TEIFNO	F1P04470
02017	0	50000	0	03162	MDOTP	CLA 1TA-1	GET NUMBER OF WORDS IN 1TA	F1P04480
02020	0	10000	0	02074		TZE WD000	EXIT FOR NO WORDS IN TABLE	F1P04490
02021	-0	73400	2	00000		PDX 0,2	NUMBER OF WORDS IN 1TA PUT IN IRB	F1P04500
02022	0	77100	0	00022		ARS 18	NUM WORDS PUT IN AC ADDR	F1P04510
02023	0	40000	0	02016		ADD OATDO	ADD ORIGIN OF ASSEMBLED TDO	F1P04520
02024	0	62100	0	02036		STA MD000	INITIALIZE ADDRESSES	F1P04530
02025	0	62100	0	02072		STA MD006		F1P04540
02026	0	62100	0	02041		STA MD030		F1P04550
02027	0	50000	0	04550		CLA OTA-1	GET NUMBER WORDS IN OTA	F1P04560
02030	0	77100	0	00022	MDOOK	ARS 18	PUT NUMBER WORDS IN AC ADDRESS	F1P04570
02031	0	40000	0	07750		ADD L(OTA)	ADD OTA ORIGIN AND	F1P04580
02032	0	62100	0	02050		STA MD002	INITIALIZE ADDRESSES	F1P04590
02033	0	62100	0	02057		STA MD003		F1P04600
02034	0	62100	0	02062		STA MD004		F1P04610
02035	0	62100	0	02070		STA MD0041		F1P04620
02036	0	50000	2	00000	MDO00	CLA 0,2	ADDR IS 1TA + NUMBER WORDS (1)	F1P04630
02037	0	12000	0	02043		TPL MD001	SIGN OF WORD IS PLUS	F1P04640
02040	0	76000	0	00003		SSP	CHANGE SIGN OF WORD IN TABLE	F1P04650
02041	0	60100	2	00000	MD030	STO 0,2		F1P04660
02042	0	02000	0	02073		TRA MD007		F1P04670
02043	-0	32000	0	07742	MDO01	ANA MSK	ERASE DECR IN AC	F1P04680
02044	0	62100	0	07747		STA E1	SAVE BETA	F1P04690
02045	-0	53400	4	04550		LXD OTA-1,4	SET INDEX C TO NUM WORDS IN OTA	F1P04700
02046	3	00000	4	02050		TXH MD002,4,0	TEST FOR TEIFNO	F1P04710
02047	0	02000	0	07751		TRA TEIFER	STOP FOR NO TEIFNO	F1P04720
02050	0	50000	4	00000	MDO02	CLA 0,4	BETA PRIME AND BETA GO TO AC	F1P04730
02051	-0	32000	0	07742		ANA MSK	ERASE BETA PRIME	F1P04740
02052	0	40200	0	07747		SUB E1	BETA COMPARED WITH TABLE ARGUMENT	F1P04750
02053	0	10000	0	02057		TZE MD003	BETA EQUALS ARGUMENT	F1P04760
02054	2	00001	4	02050		TIX MD002,4,1	BETA NOT EQUAL TO ARGUMENT	F1P04770
02055	0	50000	0	02103		CLA PAT13		F1P04780
02056	0	02000	0	02072		TRA MD006		F1P04790
02057	0	50000	4	00000	MDO03	CLA 0,4	BETA PRIME AND BETA GO TO AC	F1P04800
02060	0	62200	0	07746		STD E2	SAVE DECR OF FIRST POSSIBILITY	F1P04810
02061	-2	00001	4	02066		TXN MD008,4,1	SEE IF THERE ARE 2 ENTRIES FOR	F1P04820
02062	0	50000	4	00000	MDO04	CLA 0,4	ONE ARGUMENT	F1P04830
02063	-0	32000	0	07742		ANA MSK	ERASE DECR IN AC	F1P04840
02064	0	40200	0	07747		SUB E1		F1P04850

02065 0 10000 0 02070 TZE MD0041  
 02066 0 50000 0 07746 MD008 CLA E2  
 02067 0 02000 0 02071 TRA MD005  
 02070 0 50000 4 00000 MD0041 CLA 0,4  
 02071 0 77100 0 00022 MD005 ARS 18  
 02072 0 62100 2 00000 MD006 STA 0,2  
 02073 2 00005 2 02036 MD007 TIX MD000,2,5  
 02074 0 07400 1 07656 WD000 TSX WAT00,1  
 02075 0 00000 0 00001 HTR 1  
 02076 0 00000 0 03163 TOT1 HTR 1TA  
 02077 0 76200 0 00221 RTB 1  
 02100 0 02000 0 00004 TRA 4  
 02101 0 77777 0 00000 DMASK 0,0,32767  
 02102 +000000077777 PAT11 OCT 77777  
 02103 0 00000 0 00000 PAT13 HTR 0  
 02104 0 00000 0 00000 PAT14 HTR 0  
 02105 0 00000 0 00000 PAT15 HTR 0  
 02106 GARBGE BSS 1  
 02107 WORKCL BSS 1  
 02110 NEWBAS BSS 1  
 02243 BUFFER BES 90  
 02243 E1PTS BSS 1  
 02244 FLSIZE BSS 1  
 02245 CMPREC BSS 1  
 03162 END1PA ORG 1650  
 03162 1TAM1 BSS 1  
 03163 1TA BSS 750

THERE ARE 2 ENTRIES  
 THERE IS ONLY ONE ENTRY  
 FOR THIS ARGUMENT

(1). BETA PRIME REPLACES BETA  
 TAKE NEXT ENTRY IN 1TA  
 WRITE TDO ON TAPE

GO TO 1-CS FOR PART B OF ONE PRIME

NO OF WORDS IN BLOCK  
 BLOCK FOR TABLE ASSEMBLING

F1P04860  
 F1P04870  
 F1P04880  
 F1P04890  
 F1P04900  
 F1P04910  
 F1P04920  
 F1P04930  
 F1P04940  
 F1P04950  
 F1P04960  
 F1P04970  
 F1P04980  
 F1P04990  
 F1P05000  
 F1P05010  
 F1P05020  
 F1P05030  
 F1P05040  
 F1P05050  
 F1P05060  
 F1P05070  
 F1P05080  
 F1P05090  
 F1P05100  
 F1P05110  
 F1P05120  
 F1P05130  
 F1P05140  
 F1P05150  
 F1P05160  
 F1P05170  
 F1P05180  
 F1P05190  
 F1P05200  
 F1P05210  
 F1P05220  
 F1P05230  
 F1P05240  
 F1P05250  
 F1P05260  
 F1P05270  
 F1P05280  
 F1P05290  
 F1P05300  
 F1P05310  
 F1P05320  
 F1P05330  
 F1P05340  
 F1P05350  
 F1P05360  
 F1P05370  
 F1P05380  
 F1P05390

704 FORTRAN MASTER RECORD CARD / 1 PRIME PART B = F0240000.

00000 0 00507 0 00507 ORG 0  
 00001 0 00000 0 01613 PZE ORG1PB,,ORG1PB  
 PZE END1PB

THIS IS PART B OF 2 PARTS OF SECTION ONE PRIME

00507 0 76100 0 00000 00507 ORG1PB ORG 327  
 00510 0 07400 1 07505 NOP  
 00511 0 00000 0 00006 TSX TAP00,1  
 00512 0 00000 0 01614 TNT6 HTR 6  
 00513 -0 53400 4 01613 HTR 6TA  
 00514 -3 00000 4 00546 LXD 6TA-1,4  
 TXL CLMD09,4,0  
 00515 0 07400 1 07505 TSX TAP00,1  
 00516 0 00000 0 00020 16  
 00517 0 00000 0 03564 L16TA 16TA

TO PERMIT A STOP FOR TESTING USE.  
 ASSEMBLE FORVAL

TEST FOR ENTRIES IN FORVAL. IF NONE WRITE  
 IDENTIFICATION WORD AND ZERO WORD.

ASSEMBLE TABLE OF FIRST, LAST FORMULA  
 NUMBERS OF CALL STATEMENTS.

00520 -0 53400 2 03563 LXD 16TA-1,2  
 00521 -3 00000 2 00546 TXL CLMD09,2,0  
 TEST FOR ANY ENTRIES IN CALL NUMBER TABLE,  
 IF NONE WRITE OUT FORVAL TABLE.

THERE ARE ENTRIES IN BOTH FORVAL AND CALL NUMBER TABLES.  
 THEREFORE THERE MAY BE SOME NUMBER IN FORVAL WHICH MUST BE  
 REPLACED WITH THE LAST NUMBER RELATED TO A CALL STATEMENT.

THE PROGRAM TO SEARCH AND REPLACE IS BASED UPON THE TWO  
TABLES BEING ORDERED BY MAGNITUDE OF INTERNAL FORMULA  
NUMBERS. THIS PERMITS A SINGLE PASS OVER BOTH.

00522	0	60000	0	02107	STZ	WORKCL			F1P05400
00523	0	53400	1	07730	LXA	L(0),1	PREPARE FOR FORWARD SEARCH.		F1P05410
00524	-0	53400	4	01613	LXD	6TA-1,4	NO OF ENTRIES IN FORVAL.		F1P05420
00525	-0	75400	2	00000	PXD	,2			F1P05430
00526	0	77100	0	00022	ARS	18			F1P05440
00527	0	40000	0	00517	ADD	L16TA			F1P05450
00530	0	62100	0	00531	STA	*+1			F1P05460
U	00531	0	50000	2	CLMD01	CLA	.,,2	GET NEXT ENTRY IN CALL TABLE.	F1P05470
	00532	0	62200	0		STD	WORKCL	DIVIDE ENTRY INTO FIRST IN AC, LAST IN CS.	F1P05480
	00533	-0	32000	0		ANA	MSK		F1P05490
	00534	0	76700	0		ALS	18		F1P05500
	00535	0	34000	1	CLMD02	CAS	6TA,1	COMPARE CALL FIRST IN AC TO NEXT FORVAL.	F1P05510
	00536	1	77777	1		TXI	CLMD04,1,-1	CALL GREATER THAN FORVAL	F1P05520
	00537	0	02000	0		TRA	CLMD03	CALL EQUAL FORVAL.	F1P05530
	00540	2	00001	2		TIX	CLMD01,2,1	GO FOR NEXT CALL ENTRY IF ANY, OTHERWISE	F1P05540
	00541	0	02000	0		TRA	CLMD09	GO WRITE FORVAL TABLE.	F1P05550
	00542	0	50000	0	CLMD03	CLA	WORKCL	REPLACE FORMULA NUMBER IN FORVAL WHICH IS	F1P05560
	00543	0	62200	1		STD	6TA,1	FIRST RELATED TO CALL WITH LAST.	F1P05570
	00544	1	77777	1		TXI	*+1,1,-1		F1P05580
	00545	2	00001	4	CLMD04	TIX	CLMD02,4,1	GO ON WITH SEARCH IF THERE ARE MORE FORVALS	F1P05590
								IF NOT GO WRITE FORVAL TABLE.	F1P05600
	00546	0	07400	1	CLMD09	TSX	WAT00,1		F1P05610
	00547	0	00000	0		HTR	6	FORVAL	F1P05620
	00550	0	00000	0		HTR	6TA	ON TAPE	F1P05630
	00551	0	50000	0		CLA	6TA-1	GET NUMBER OF WORDS IN FORVAL	F1P05640
	00552	-0	10000	0		TNZ	WFD00	TABLE EXISTS	F1P05650
	00553	0	02000	0		TRA	A4VAR	EXIT TO ASSEMBLE NEXT TABLE	F1P05660
	00554	0	76600	0	WFD00	WRS	194	PREPARE TO WRITE FORVAL ON DRUM	F1P05670
	00555	-0	73400	1	WFD01	PDX	0,1	SET INDEX A TO NUM OF WORDS	F1P05680
	00556	0	53400	2		LXA	WFD01,2	SET INDEX B TO ZERO	F1P05690
	00557	0	77100	0		ARS	18	PUT NUM OF WORDS IN AC	F1P05700
	00560	0	40000	0		ADD	TOT6		F1P05710
	00561	0	62100	0		STA	WFD04	INITIALIZE	F1P05720
	00562	0	62100	0		STA	WFD07		F1P05730
	00563	0	40200	0		SUB	L(1)	ADDRESSES	F1P05740
	00564	0	62100	0		STA	WFD03		F1P05750
	00565	0	62100	0		STA	WFD06		F1P05760
	00566	1	77777	1		TXI	WFD02,1,-1	SUBTRACT ONE FROM INDEX A	F1P05770
	00567	0	76000	0	WFD02	CLM		COMPUTE CHECK SUM	F1P05780
	00570	0	36100	1	WFD03	ACL	0,1	FOR EACH FORVAL	F1P05790
	00571	0	36100	1	WFD04	ACL	0,1	ENTRY AND SAVE IN	F1P05800
	00572	0	60200	2		SLW	FRCHS,2	SEPARATE TABLE	F1P05810
	00573	1	77777	2		TXI	WFD05,2,-1		F1P05820
	00574	2	00002	1	WFD05	TIX	WFD02,1,2	TEST END OF FORVAL ENTRIES	F1P05830
	00575	0	53400	2		LXA	WFD01,2	SET INDEX B TO ZERO	F1P05840
	00576	-0	53400	1		LXD	6TA-1,1		F1P05850
	00577	0	46000	0		LDA	DRL02		F1P05860
									F1P05870
									F1P05880
									F1P05890
									F1P05900
									F1P05910
									F1P05920
									F1P05930

00600	1	77777	1	00601	TXI WFD06,1,-1		F1P05940
00601	0	70000	1	00000	WFD06	CPY 0,1	F1P05950
00602	0	70000	1	00000	WFD07	CPY 0,1	F1P05960
00603	-2	00002	1	00606	TXN WFD08,1,2		F1P05970
00604	0	70000	2	03564	CPY FRCHS,2		F1P05980
00605	1	77777	2	00601	TXI WFD06,2,-1		F1P05990
00606	0	70000	2	03564	WFD08	CPY FRCHS,2	F1P06000
00607	0	70000	0	07743	CPY FRCON		F1P06010
00610	0	07400	1	07505	A4VAR	TSX TAP00,1	F1P06020
00611	0	00000	0	00005	TNT5	HTR 5	F1P06030
00612	0	00000	0	01614		HTR 5TA	F1P06040
00613	0	07400	1	07656		TSX WAT00,1	F1P06050
00614	0	00000	0	00005		HTR 5	F1P06060
00615	0	00000	0	01614		HTR 5TA	F1P06070
00616	0	07400	1	07505		TSX TAP00,1	F1P06080
00617	0	00000	0	00004		HTR 4	F1P06090
00620	0	00000	0	01614		HTR 4TA	F1P06100
00621	0	07400	1	07656		TSX WAT00,1	F1P06110
00622	0	00000	0	00004		HTR 4	F1P06120
00623	0	00000	0	01614		HTR 4TA	F1P06130
PROGRAM FOR PROCESSING FREQUENCY TABLE, FRET							F1P06140
00624	0	07400	1	07505	TSX TAP00,1	ASSEMBLE FRET.	F1P06150
00625	0	00000	0	00007	HTR 7		F1P06160
00626	0	00000	0	01614	TOT7	HTR 7TA	F1P06170
00627	0	50000	0	01613	MFRTP	CLA 7TA-1	F1P06180
00630	0	10000	0	01114		TZE WFR00	F1P06190
00631	-0	73400	2	00000		PDX 0,2	F1P06200
00632	0	77100	0	00022		ARS 18	F1P06210
00633	0	40000	0	00626		ADD TOT7	F1P06220
00634	0	62100	0	00645		STA MFR00	F1P06230
00635	0	62100	0	00662		STA MFR03	F1P06240
00636	0	50000	0	04550		CLA OTA-1	F1P06250
00637	-0	10000	0	00641		TNZ MFR0K	F1P06260
00640	0	02000	0	07751		TRA TEIFER	F1P06270
00641	0	77100	0	00022	MFR0K	ARS 18	F1P06280
00642	0	40000	0	07750		ADD L(OTA)	F1P06290
00643	0	62100	0	00651		STA MFR01	F1P06300
00644	0	62100	0	00660		STA MFR02	F1P06310
00645	0	50000	2	00000	MFR00	CLA 0,2	F1P06320
00646	0	12000	0	00663		TPL MFR04	F1P06330
00647	0	62100	0	01604		STA E10	F1P06340
00650	-0	53400	1	04550		LXD OTA-1,1	F1P06350
00651	0	50000	1	00000	MFR01	CLA 0,1	F1P06360
00652	-0	32000	0	07742		ANA MSK	F1P06370
00653	0	40200	0	01604		SUB E10	F1P06380
00654	0	10000	0	00660		TZE MFR02	F1P06390
00655	2	00001	1	00651		TIX MFR01,1,1	F1P06400
00656	0	50000	0	07730		CLA L(0)	F1P06410
00657	0	02000	0	00662		TRA MFR03	F1P06420
00660	0	50000	1	04551	MFR02	CLA OTA,1	F1P06430
00661	0	77100	0	00022		ARS 18	F1P06440
00662	0	62100	2	00000	MFR03	STA 0,2	F1P06450
00663	2	00001	2	00645	MFR04	TIX MFR00,2,1	F1P06460
PROGRAM FOR SORTING FRET							F1P06470
WRITE FORVAL							
ENTRY							
TEST END OF FORVAL ENTRIES							
WRITE CHECK SUM							
FOR ABOVE ENTRY							
WRITE CHECK SUM FOR LAST ENTRY							
WRITE END OF TABLE SIGNAL							
ASSEMBLE FORVAR.							
WRITE FORVAR ON TAPE							
ASSEMBLE FORTAG							
WRITE FORTAG ON TAPE							
STOP FOR NO TABLE IN OTA							
PUT NUMBER WORDS IN AC ADDRESS							
ADD OTA ORIGIN AND							
INITIALIZE ADDRESSES							
GET NUMBER OF WORDS IN OTA							
TABLE EXISTS							
ADDR IS 7TA + NUMBER OF WORDS							
DO NOT MODIFY THIS WORD							
SAVE ABSOLUTE PART OF WORD							
SET INDEX TO NUM WORDS IN OTA							
TEIFNO ARGUMENT IS IN AC.							
COMPARE WITH 7TA WORD							
MODIFY 7TA WORD							
GO TO NEXT TEIFNO WORD							
NO ENTRY FOUND IN TEIFNO. IGNORE.							
TEIFNO WORD GOES TO AC							
INTERNAL FORMULA NUM IN AC ADDR.							
INTERNAL FORMULA NUM GOES TO 7TA							
EXAMINE NEXT WORD OF 7TA							



00664	0	50000	0	01613	SFRTP	CLA 7TA-1
00665	0	77100	0	00022		ARS 18
00666	0	40000	0	00626		ADD TOT7
00667	0	62100	0	00701		STA SFR01
00670	0	62100	0	00707		STA SFR03
00671	0	62100	0	00721		STA SFR06
00672	0	62100	0	00724		STA SFR07
00673	0	62100	0	00733		STA SFR11
00674	0	62100	0	00743		STA SFR13
00675	0	62100	0	00753		STA SFR17
00676	0	76000	0	00000	SFR00	CLM
00677	0	60100	0	07746		STO E12
00700	-0	53400	1	01613		LXD 7TA-1,1
00701	0	50000	1	00000	SFR01	CLA 0,1
00702	-0	12000	0	00704		TMI SFR02
00703	1	77777	1	00701		TXI SFR01,1,-1
00704	0	62100	0	01605	SFR02	STA E11
00705	-0	63400	1	01606		SXD A1BOX,1
00706	-2	00001	1	00762		TNX SFR21,1,1
00707	0	50000	1	00000	SFR03	CLA 0,1
00710	-0	12000	0	00713		TMI SFR05
00711	-3	00001	1	00762		TXL SFR21,1,1
00712	1	77777	1	00707		TXI SFR03,1,-1
00713	0	76000	0	00003	SFR05	SSP
00714	0	40200	0	01605		SUB E11
00715	0	12000	0	00701		TPL SFR01
00716	0	50000	0	07731		CLA L(1)
00717	0	60100	0	07746		STO E12
00720	0	53400	4	07730		LXA L(0),4
00721	0	50000	1	00000	SFR06	CLA 0,1
00722	0	60100	4	04551		STO OTA,4
00723	1	77777	1	00724		TXI SFR07,1,-1
00724	0	50000	1	00000	SFR07	CLA 0,1
00725	-0	12000	0	00732		TMI SFR10
00726	1	77777	4	00727		TXI SFR09,4,-1
00727	0	60100	4	04551	SFR09	STO OTA,4
00730	-3	00001	1	00732		TXL SFR10,1,1
00731	1	77777	1	00724		TXI SFR07,1,-1
00732	-0	53400	1	01606	SFR10	LXD A1BOX,1
00733	0	50000	1	00000	SFR11	CLA 0,1
00734	1	77777	4	00735		TXI SFR12,4,-1
00735	0	60100	4	04551	SFR12	STO OTA,4
00736	-0	63400	4	01607		SXD A2BOX,4
00737	0	50000	0	01606		CLA A1BOX
00740	0	40000	0	01607		ADD A2BOX
00741	0	62200	0	01607		STD A2BOX
00742	1	77777	1	00743		TXI SFR13,1,-1
00743	0	50000	1	00000	SFR13	CLA 0,1
00744	-0	12000	0	00750		TMI SFR15
00745	1	77777	4	00746		TXI SFR14,4,-1
00746	0	60100	4	04551	SFR14	STO OTA,4
00747	1	77777	1	00743		TXI SFR13,1,-1
00750	-0	53400	1	01606	SFR15	LXD A1BOX,1
00751	0	53400	2	07730		LXA L(0),2

GET NUMBER OF WORDS IN FRET F1P06480  
NUMBER WORDS IN TABLE GO TO AC ADDR F1P06490  
COMPUTE NUMBER OF WORDS IN TABLE F1P06500  
PLUS ORIGIN OF TABLE AND INITIALIZE F1P06510  
ADDRESSES F1P06520  
F1P06530  
F1P06540  
F1P06550  
F1P06560  
F1P06570  
F1P06580  
F1P06590

SET E12 TO ZERO TO INDICATE  
TABLE IS IN ORDER.  
SET INDEX A TO NUM OF WORDS IN 7TA F1P06600  
A WORD OF 7TA GOES TO AC. F1P06610  
COMPARE THIS WORD. IT IS ALPHA ONE F1P06620  
EXAMINE NEXT WORD OF 7TA F1P06630  
SAVE ALPHA ONE FOR COMPARISON F1P06640  
SAVE INDEX FOR RETURN TO ALPHA ONE F1P06650  
EXAMINE NEXT WORD OF 7TA F1P06660  
PUT NEXT WORD OF 7TA IN AC. F1P06670  
COMPARE THIS WORD. IT IS ALPHA TWO F1P06680  
EXIT FOR END OF TABLE F1P06690  
EXAMINE NEXT 7TA WORD F1P06700  
COMPUTE ALPHA TWO F1P06710  
MINUS ALPHA ONE F1P06720  
ALPHA ONE IS SMALLER F1P06730  
C(E12) NOT ZERO INDICATES TABLE WAS F1P06740  
NOT IN ORDER ON THIS PASS. F1P06750  
SET INDEX C TO ZERO TO INDEX OTA F1P06760  
ALPHA TWO GOES TO AC F1P06770  
SAVE ALPHA TWO F1P06780  
GET NEXT WORD OF ALPHA TWO ENTRY F1P06790  
PUT THIS WORD IN AC F1P06800  
ALL WORDS OF ALPHA TWO ENTRY SAVED F1P06810  
GO TO NEXT WORD OF OTA F1P06820  
SAVE WORDS OF ALPHA TWO ENTRY F1P06830  
ALPHA TWO ENTRY IS END OF TABLE F1P06840  
EXAMINE NEXT WORD OF 7TA F1P06850  
SET INDEX A TO GET ADDR OF ALPHA 1 F1P06860  
ALPHA ONE GOES TO AC F1P06870  
GO TO NEXT WORD OF OTA F1P06880  
SAVE ALPHA ONE F1P06890  
COMPUTE INDEX FOR F1P06900  
RETURNING TO ALPHA ONE F1P06910  
AFTER TRANSPOSING F1P06920  
ALPHA ONE AND ALPHA TWO ENTRIES F1P06930  
EXAMINE NEXT WORD OF 7TA F1P06940  
PUT NEXT WORD IN AC F1P06950  
FINISHED SAVING ALPHA ONE ENTRY F1P06960  
GO TO NEXT WORD OF OTA F1P06970  
SAVE WORDS OF ALPHA ONE ENTRY F1P06980  
EXAMINE NEXT WORD OF 7TA F1P06990  
SET INDEX A TO GET ADDR OF ALPHA 1 F1P07000  
SET INDEX B TO INDEX OTA F1P07010

00752	0	50000	2	04551	SFR16	CLA	OTA,2	ALPHA ONE ENTRY AND ALPHA TWO ENTRY	F1P07020
00753	0	60100	1	00000	SFR17	STO	0,1	ARE INTERCHANGED	F1P07030
00754	1	77777	2	00755		TXI	SFR18,2,-1	GO TO NEXT WORD OF OTA	F1P07040
00755	-2	00001	1	00676	SFR18	TNX	SFR00,1,1	END OF TABLE EXIT	F1P07050
00756	-3	00001	4	00760		TXL	SFR20,4,1	TEST IF OTA IS EMPTIED	F1P07060
00757	1	00001	4	00752		TXI	SFR16,4,1	COUNT WORDS TAKEN FROM OTA	F1P07070
00760	-0	53400	1	01607	SFR20	LXD	A2BOX,1	GET OLD ALPHA ONE AS NEW ALPHA ONE	F1P07080
00761	0	02000	0	00701		TRA	SFR01	START OVER WITH NEW ALPHA ONE	F1P07090
00762	0	50000	0	07746	SFR21	CLA	E12	TEST IF TABLE IS IN ORDER	F1P07100
00763	-0	10000	0	00676		TNZ	SFR00	EXAMINE TABLE AGAIN	F1P07110
								PROGRAM TO REVERSE FREQUENCIES FOR GO TO VECTOR ENTRIES IN	F1P07120
								TIFGO	F1P07130
00764	0	76400	0	00222	RFT00	BST	146	MOVE TAPE	F1P07140
00765	0	76400	0	00222		BST	146	THRU TABLES	F1P07150
00766	0	76400	0	00222		BST	146	ALREADY WRITTEN	F1P07160
00767	0	76400	0	00222		BST	146	TO OBTAIN	F1P07170
00770	0	76400	0	00222		BST	146	TIFGO	F1P07180
00771	0	76400	0	00222		BST	146		F1P07190
00772	0	76200	0	00222		RDS	146	SELECT TAPE FOR READING	F1P07200
00773	0	50000	0	07734		CLA	L(4)	PREPARE TO COUNT	F1P07210
00774	0	60100	0	01610		STO	IT1	TWO TAPE TESTS	F1P07220
00775	0	70000	0	07747		CPY	E1RF	GET TABLE NUMBER	F1P07230
00776	0	50000	0	07747		CLA	E1RF	AND COMPARE WITH	F1P07240
00777	0	40200	0	07745		SUB	TNT2	TABLE CALLED FOR	F1P07250
01000	0	10000	0	01002		TZE	RFT01	TABLE NUMBERS AGREE	F1P07260
01001	0	07400	4	00004		TSX	DIAG,4	STOP FOR TABLE NOT IN RIGHT RECORD	F1P07270
01002	0	70000	0	04550	RFT01	CPY	OTA-1	GET NUMBER OF WORDS	F1P07280
01003	0	50000	0	04550		CLA	OTA-1	IN TAPE RECORD	F1P07290
01004	0	10000	0	01107		TZE	WFR01	EXIT FOR EMPTY TABLE ON TAPE	F1P07300
01005	0	62200	0	01022		STD	RFT05		F1P07310
01006	-0	76000	0	00012		RTT		TURN OFF TAPE	F1P07320
01007	0	76100	0	00000		NOP		CHECK INDICATOR AND LIGHTS	F1P07330
01010	0	53400	2	07730	RFT02	LXA	L(0),2	SET INDEX B TO ZERO	F1P07340
01011	0	70000	2	04551	RFT03	CPY	OTA,2		F1P07350
01012	1	77777	2	01011		TXI	RFT03,2,-1	COPY LOOP	F1P07360
01013	0	76100	0	00000		NOP		END OF FILE JUMP	F1P07370
01014	0	76600	0	00333		WRS	219	END OF RECORD. DELAY FOR TAPE TEST	F1P07380
01015	-0	76000	0	00012		RTT		TAPE TEST	F1P07390
01016	0	02000	0	01020		TRA	RFT04	TAPE TEST ON	F1P07400
01017	0	02000	0	01032		TRA	RFT07	TAPE TEST OFF	F1P07410
01020	0	76400	0	00224	RFT04	BST	148	REPEAT RECORD	F1P07420
01021	0	76200	0	00224		RDS	148	PREPARE TO READ RECORD	F1P07430
01022	1	00000	2	01023	RFT05	TXI	RFT06,2,**	COMPENSATE FOR REREADING RECORD	F1P07440
01023	0	50000	0	01610	RFT06	CLA	IT1	COUNT	F1P07450
01024	0	40200	0	07731		SUB	L(1)	TWO	F1P07460
01025	0	60100	0	01610		STO	IT1	TAPE TESTS	F1P07470
01026	0	70000	0	07747		CPY	E1RF	GET TABLE NUMBER	F1P07480
01027	0	70000	0	07747		CPY	E1RF	GET NUMBER OF WORDS IN TABLE	F1P07490
01030	0	12000	0	01010		TPL	RFT02	GO TO READ TAPE	F1P07500
01031	0	07400	4	00004		TSX	DIAG,4	STOP FOR SECOND TAPE TEST	F1P07510
01032	0	50000	0	01613	RFT07	CLA	7TA-1	COMPUTE TABLE	F1P07520
01033	0	77100	0	00022		ARS	18	ORIGIN PLUS	F1P07530
01034	0	40000	0	00626		ADD	TOT7	NUMBER OF	F1P07540
01035	-0	62100	0	01057		STA	RFT09	WORDS IN	F1P07550

01036	0	62100	0	01072	STA RFT13	FRET AND	F1P07560
01037	0	62100	0	01103	STA RFT18	INITIALIZE ADDRESSES	F1P07570
01040	0	50000	0	04550	CLA OTA-1	GET NUMBER OF WORDS IN TI FGO	F1P07580
01041	0	77100	0	00022	ARS 18	PUT IN AC AND	F1P07590
01042	0	40200	0	07731	SUB L(1)	SUBTRACT ONE	F1P07600
01043	0	73400	4	00000	PAX 0,4	SET INDEX C TO THIS NUMBER	F1P07610
01044	0	40000	0	07750	ADD TOTO	ADO ORIGIN OF TIFGO ADD	F1P07620
01045	0	62100	0	01050	STA RFT08	INITIALIZE ADDRESS	F1P07630
01046	0	76000	0	00000	CLM		F1P07640
01047	0	60200	0	01611	SLW E1RFT		F1P07650
01050	0	50000	4	00000	CLA 0,4	GET FIRST WORD OF TIFGO ENTRY	F1P07660
01051	0	62200	0	01611	STD E1RFT	SAVE FORMULA NUMBER	F1P07670
01052	-0	12000	0	01056	TMI RFT09-1	ENTRY IS AN IF(E)	F1P07680
01053	-0	32000	0	07742	ANA MSK	ERASE DECREMENT OF AC	F1P07690
01054	0	40200	0	07732	SUB L(2)	TEST FOR GO TO VECTOR ENTRY	F1P07700
01055	-0	10000	0	01106	TNZ RFT20	EXIT FOR ENTRY NOT A GO TO VECTOR	F1P07710
01056	-0	53400	1	01613	LXD 7TA-1,1	SET INDEX A TO NUM OF WORDS IN FRET	F1P07720
01057	0	50000	1	00000	CLA 0,1	GET WORD OF FRET ENTRY	F1P07730
01060	0	12000	0	01065	TPL RFT10	TEST FOR FIRST WORD OF ENTRY	F1P07740
01061	0	76000	0	00003	SSP	PUT FORMULA NUMBER	F1P07750
01062	0	76700	0	00022	ALS 18	IN DECREMENT OF AC	F1P07760
01063	0	40200	0	01611	SUB E1RFT	COMPARE FORMULA NUMBERS	F1P07770
01064	0	10000	0	01067	TZE RFT11	FORMULA NUMBERS MATCH	F1P07780
01065	2	00001	1	01057	TIX RFT09,1,1	TEST END OF FRET	F1P07790
01066	0	02000	0	01106	TRA RFT20	EXIT FOR END OF FRET	F1P07800
01067	-2	00001	1	01106	TNX RFT20,1,1	PREPARE FOR SECOND WORD OF ENTRY	F1P07810
01070	-0	63400	1	01612	SXD E2RFT,1	AND SAVE INDEX A FOR RETURN	F1P07820
01071	0	53400	2	07730	LXA L(0),2	SET INDEX B TO ZERO	F1P07830
01072	0	50000	1	00000	CLA 0,1	GET FREQUENCY PART OF ENTRY	F1P07840
01073	-0	12000	0	01077	TMI RFT15	TEST END OF ENTRY	F1P07850
01074	0	60100	2	03172	STO FRTS,2	SAVE FREQUENCY	F1P07860
01075	1	77777	2	01076	TXI RFT14,2,-1	TAKE NEXT FRTS WORD	F1P07870
01076	2	00001	1	01072	TIX RFT13,1,1	TAKE NEXT FRET WORD	F1P07880
01077	-3	00000	2	01106	TXL RFT20,2,0	EXIT FOR NO FREQUENCY IN ENTRY	F1P07890
01100	-0	53400	1	01612	LXD E2RFT,1	SET INDEX A TO GET 2ND ENTRY WORD	F1P07900
01101	1	00001	2	01102	TXI RFT17,2,1	GET FREQUENCIES	F1P07910
01102	0	50000	2	03172	CLA FRTS,2	IN REVERSE ORDER	F1P07920
01103	0	60100	1	00000	STO 0,1	AND REPLACE IN FRET ENTRY	F1P07930
01104	1	77777	1	01105	TXI RFT19,1,-1	TAKE NEXT WORD OF FRET ENTRY	F1P07940
01105	-3	00000	2	01101	TXH RFT16,2,0	TEST END OF ENTRY	F1P07950
01106	2	00002	4	01050	TIX RFT08,4,2	TEST END OF TIFGO	F1P07960
01107	0	76200	0	00222	WFR01	POSITION	F1P07970
01110	0	76200	0	00222	RDS 146	TAPE	F1P07980
01111	0	76200	0	00222	RDS 146	FOR	F1P07990
01112	0	76200	0	00222	RDS 146	WRITING	F1P08000
01113	0	76200	0	00222	RDS 146	FRET	F1P08010
01114	0	07400	1	07656	WFR00	WRITE	F1P08020
01115	0	00000	0	00007	TSX WAT00,1	FRET	F1P08030
01116	0	00000	0	01614	HTR 7	ON TAPE	F1P08040
01117	0	07400	1	07505	HTR 7TA	ASSEMBLE EQUIP.	F1P08050
01120	0	00000	0	00010	TSX TAP00,1		F1P08060
01121	0	00000	0	04551	8		F1P08070
					EQ		F1P08080
					PROGRAM FOR CLASSES OF EQUIVALENCE		F1P08090
					INITIALIZATION OF ADDRESSES AND STORAGE		

01122	0	50000	0	04550	CLEQ	CLA EQM1	COMPUTE EQ ORIGIN PLUS	F1P08100
01123	0	77100	0	00022		ARS 18	NUMBER OF WORDS IN TABLE	F1P08110
01124	0	40000	0	01574		ADD L(EQ)		F1P08120
01125	0	62100	0	01165		STA B7CLQ		F1P08130
01126	0	62100	0	01171		STA B8CLQ		F1P08140
01127	0	62100	0	01200		STA B9CLQ		F1P08150
01130	0	62100	0	01174		STA B2CLQ		F1P08160
01131	0	62100	0	01213		STA B11CLQ		F1P08170
01132	0	62100	0	01225		STA C2CLQ		F1P08180
01133	0	62100	0	01230		STA C3CLQ		F1P08190
01134	0	62100	0	01271		STA A10CLQ		F1P08200
01135	0	62100	0	01302		STA A11CLQ		F1P08210
01136	0	62100	0	01315		STA A12CLQ		F1P08220
01137	0	62100	0	01326		STA A13CLQ		F1P08230
01140	0	62100	0	01306		STA A17CLQ		F1P08240
01141	0	62100	0	01237		STA C10CLQ		F1P08250
01142	0	76000	0	00000	OADDR	CLM		F1P08260
01143	0	60200	0	01613		SLW MEEQM1		F1P08270
01144	0	60200	0	01575		SLW BOX1		F1P08280
01145	0	60200	0	01577		SLW E1CLEQ		F1P08290
01146	0	60200	0	01600		SLW E2CLEQ		F1P08300
01147	0	60200	0	01601		SLW E3CLEQ		F1P08310
01150	0	60200	0	01602		SLW E4CLEQ		F1P08320
01151	0	60200	0	01603		SLW E5CLEQ		F1P08330
01152	0	53400	2	01142		LXA OADDR,2		F1P08340
01153	-0	53400	4	04550		LXD EQM1,4		F1P08350
01154	0	60200	2	01614	G2CLQ	SLW MEEQ,2		F1P08360
01155	1	77777	2	01156		TXI G1CLQ,2,-1		F1P08370
01156	2	00001	4	01154	G1CLQ	TIX G2CLQ,4,1		F1P08380
01157	0	50000	0	07740		CLA DECR1		F1P08390
01160	0	60100	0	01576		STO BOX2		F1P08400
						INITIALIZATION OF AN EQUIVALENCE CLASS		F1P08410
01161	-0	53400	1	04550	BOCLQ	LXD EQM1,1	SET INDEX A TO NUM OF WORDS IN EQ	F1P08420
01162	-3	00000	1	01454		TXL OUT,1,0	EXIT FOR EMPTY EQ TABLE	F1P08430
01163	-0	53400	2	01576		LXD BOX2,2	PREPARE TO ENTER	F1P08440
01164	1	77777	2	01165		TXI B7CLQ,2,-1	A WORD IN MEEQ	F1P08450
01165	0	50000	1	00000	B7CLQ	CLA 0,1	OBTAIN EQ WORD	F1P08460
01166	0	10000	0	01212		TZE B5CLQ	EXIT FOR DELETED EQ SET	F1P08470
01167	0	60100	2	01614		STO MEEQ,2	SAVE EQ SET IN TABLE MEEQ	F1P08480
01170	0	76000	0	00000		CLM	INDICATE	F1P08490
01171	0	60200	1	00000	B8CLQ	SLW 0,1	DELETED	F1P08500
01172	1	77777	2	01173		TXI B1CLQ,2,-1	EQ SET	F1P08510
01173	-2	00001	1	00000	B1CLQ	TXN 0,1,1	EXIT FOR END OF EQ TABLE	F1P08520
01174	0	50000	1	00000	B2CLQ	CLA 0,1	OBTAIN EQ SUBSCRIPT	F1P08530
01175	-0	12000	0	01206		TMI B4CLQ	EXIT FOR END OF EQ SET	F1P08540
01176	0	60100	2	01614		STO MEEQ,2	SAVE REST OF EQ SET	F1P08550
01177	1	77777	1	01200		TXI B9CLQ,1,-1		F1P08560
01200	0	50000	1	00000	B9CLQ	CLA 0,1	OBTAIN EQ SYMBOL	F1P08570
01201	1	77777	2	01202		TXI B10CLQ,2,-1		F1P08580
01202	0	60100	2	01614	B10CLQ	STO MEEQ,2		F1P08590
01203	1	77777	2	01204		TXI B3CLQ,2,-1	IN TABLE MEEQ	F1P08600
01204	2	00001	1	01174	B3CLQ	TIX B2CLQ,1,1		F1P08610
01205	0	02000	0	00000		TRA **	EXIT FOR END OF EQ TABLE	F1P08620
01206	0	76000	0	00003	B4CLQ	SSP	SAVE LAST	F1P08630

01207	0	60100	2	01614	STO MEEQ,2	SUBSCRIPT OF EQ SET	F1P08640
01210	-0	63400	2	01576	SXD BOX2,2	AND ITS MEEQ INDEX	F1P08650
01211	0	02000	0	01220	TRA C0CLQ	GO TO COMPARISON ROUTINE	F1P08660
01212	1	77777	1	01213	B5CLQ TXI B11CLQ,1,-1		F1P08670
01213	0	50000	1	00000	B11CLQ CLA 0,1	LOOP TO	F1P08680
01214	0	12000	0	01216	TPL B6CLQ	GO THROUGH	F1P08690
01215	2	00001	1	01165	TIX B7CLQ,1,1	DELETED SET	F1P08700
01216	2	00002	1	01213	B6CLQ TIX 811CLQ,1,2		F1P08710
01217	0	02000	0	01360	TRA END	EXIT FOR COMPLETELY DELETED EQ TABLE	F1P08720
					COMPARISON OF MEEQ SYMBOLS WITH EQ SYMBOLS		F1P08730
01220	-0	53400	2	01576	C0CLQ LXD BOX2,2	INITIALIZE TEST	F1P08740
01221	-0	63400	2	01253	SXD C5CLQ,2	FOR END OF MEEQ TABLE	F1P08750
01222	-0	53400	2	01575	LXD BOX1,2	SET INDEX 8 TO GET 1ST SYMB OF MEEQ	F1P08760
01223	-0	53400	1	04550	C6CLQ LXD EQ-1,1	PREPARE TO SCAN EQ TABLE	F1P08770
01224	-0	63400	1	01577	C7CLQ SXD E1CLEQ,1	SAVE INDEX OF 1ST WORD OF EQ SET	F1P08780
01225	0	50000	1	00000	C2CLQ CLA 0,1	OBTAIN EQ WORD	F1P08790
01226	-0	10000	0	01235	TNZ C4CLQ	SET NOT DELETED	F1P08800
01227	1	77777	1	01230	TXI C3CLQ,1,-1		F1P08810
01230	0	50000	1	00000	C3CLQ CLA 0,1	LOOP TO GO THRU	F1P08820
01231	-0	12000	0	01233	TMI C1CLQ	DELETED SET	F1P08830
01232	2	00002	1	01230	TIX C3CLQ,1,2		F1P08840
01233	2	00001	1	01224	C1CLQ TIX C7CLQ,1,1	EXAMINE NEXT EQ SET	F1P08850
01234	0	02000	0	01252	TRA C9CLQ	EXIT FOR END OF EQ TABLE	F1P08860
01235	0	60100	0	01603	C4CLQ STO E5CLEQ	SAVE EQ SYMBOL	F1P08870
01236	1	77777	1	01237	TXI C10CLQ,1,-1		F1P08880
01237	0	50000	1	00000	C10CLQ CLA 0,1	GET EQ SUBSCRIPT	F1P08890
01240	0	12000	0	01246	TPL C8CLQ	NOT END OF EQ SET	F1P08900
01241	0	50000	0	01603	CLA E5CLEQ	GET LAST SYMBOL OF EQ SET	F1P08910
01242	0	40200	2	01614	SUB MEEQ,2	COMPARE WITH MEEQ SYMBOL	F1P08920
01243	0	10000	0	01263	TZE A0CLQ	MATCH	F1P08930
01244	2	00001	1	01224	TIX C7CLQ,1,1	NO MATCH	F1P08940
01245	0	02000	0	01252	TRA C9CLQ		F1P08950
01246	0	50000	0	01603	C8CLQ CLA E5CLEQ		F1P08960
01247	0	40200	2	01614	SUB MEEQ,2		F1P08970
01250	0	10000	0	01263	TZE A0CLQ		F1P08980
01251	2	00001	1	01225	TIX C2CLQ,1,1		F1P08990
01252	1	77776	2	01253	C9CLQ TXI C5CLQ,2,-2	GET NEXT MEEQ SYMBOL	F1P09000
01253	3	00000	2	01223	C5CLQ TXH C6CLQ,2,**	TEST END OF TABLE MEEQ	F1P09010
					END OF TABLE MEEQ, NO MATCH IN TABLE EQ		F1P09020
01254	-0	53400	2	01576	F2CLQ LXD BOX2,2	INDICATE	F1P09030
01255	0	50000	2	01614	CLA MEEQ,2	END OF SET	F1P09040
01256	-0	76000	0	00003	SSM	IN TABLE	F1P09050
01257	0	60100	2	01614	STO MEEQ,2	MEEQ	F1P09060
01260	1	77777	2	01261	TXI F1CLQ,2,-1	INITIALIZE INDEX OF	F1P09070
01261	-0	63400	2	01575	F1CLQ SXD BOX1,2	NEXT SET IN TABLE MEEQ AND	F1P09080
01262	0	02000	0	01161	TRA B0CLQ	INITIALIZE THE SET	F1P09090
					MEEQ SYMBOL MATCHES EQ SYMBOL		F1P09100
01263	1	00001	1	01264	A0CLQ TXI A14CLQ,1,1		F1P09110
01264	-0	63400	1	01314	A14CLQ SXD A6CLQ,1	SAVE EQ INDEX OF MATCHED SYMBOL	F1P09120
01265	2	00001	1	01266	TIX A1CLQ,1,1		F1P09130
01266	1	77777	2	01267	A1CLQ TXI A2CLQ,2,-1		F1P09140
01267	0	50000	2	01614	A2CLQ CLA MEEQ,2		F1P09150
01270	0	62100	0	01600	STA E2CLEQ	SAVE SUBSCRIPT OF MEEQ SYMBOL	F1P09160
01271	0	50000	1	00000	A10CLQ CLA 0,1		F1P09170

01272	0	62100	0	01601	STA E3CLEQ	SAVE SUBSCRIPT OF EQ SYMBOL	F1P09180
01273	-0	53400	2	01576	LXD BOX2,2		F1P09190
01274	1	77777	2	01275	TXI A16CLQ,2,-1		F1P09200
01275	-0	63400	2	01356	A16CLQ SXD E1CLQ,2		F1P09210
01276	1	00001	2	01277	TXI A15CLQ,2,1		F1P09220
01277	-0	12000	0	01313	A15CLQ TMI A9CLQ	MATCHED SYMBOL IS END OF EQ SET	F1P09230
01300	1	77777	2	01301	A4CLQ TXI A3CLQ,2,-1	LOOP TO TRANSFER	F1P09240
01301	-2	00001	1	00000	A3CLQ TNX 0,1,1	TO MEEQ SYMBOLS OF	F1P09250
01302	0	50000	1	00000	A11CLQ CLA 0,1	EQ BELOW MATCHED SYMBOL	F1P09260
01303	0	60100	2	01614	STO MEEQ,2		F1P09270
01304	-2	00001	1	00000	TNX 0,1,1		F1P09280
01305	1	77777	2	01306	TXI A17CLQ,2,-1		F1P09290
01306	0	50000	1	00000	A17CLQ CLA 0,1		F1P09300
01307	-0	12000	0	01312	TMI A5CLQ		F1P09310
01310	0	60100	2	01614	STO MEEQ,2		F1P09320
01311	0	02000	0	01300	TRA A4CLQ		F1P09330
01312	0	62100	2	01614	A5CLQ STA MEEQ,2	SAVE SBSCR OF LAST SYMBOL OF EQ SET	F1P09340
01313	-0	53400	1	01577	A9CLQ LXD E1CLEQ,1		F1P09350
01314	-3	00000	1	01321	A6CLQ TXL A8CLQ,1,**	EXIT FOR MATCHED SYMBOL REACHED	F1P09360
01315	0	50000	1	00000	A12CLQ CLA 0,1	LOOP TO TRANSFER	F1P09370
01316	1	77777	2	01317	TXI A7CLQ,2,-1	TO MEEQ SYMBOLS OF	F1P09380
01317	0	60100	2	01614	A7CLQ STO MEEQ,2	EQ ABOVE MATCHED	F1P09390
01320	1	77777	1	01314	TXI A6CLQ,1,-1	SYMBOL	F1P09400
01321	-0	63400	2	01576	A8CLQ SXD BOX2,2		F1P09410
01322	-0	63400	2	01343	SXD D2CLQ,2		F1P09420
01323	-0	63400	2	01336	SXD D4CLQ,2		F1P09430
01324	-0	53400	1	01577	LXD E1CLEQ,1	INDICATE	F1P09440
01325	0	76000	0	00000	CLM	DELETED	F1P09450
01326	0	60200	1	00000	A13CLQ SLW 0,1	EQ SET	F1P09460
					NORMALIZATION OF MEEQ SUBSCRIPTS		F1P09470
01327	0	50000	0	01601	CLA E3CLEQ	GET EQ SUBSCRIPT	F1P09480
01330	0	40200	0	01600	SUB E2CLEQ	COMPARE WITH MEEQ SUBSCRIPT	F1P09490
01331	0	10000	0	01220	TZE COCLQ	SUBSCRIPTS MATCH	F1P09500
01332	0	62100	0	01602	STA E4CLEQ		F1P09510
01333	0	12000	0	01350	TPL EOCLQ		F1P09520
					EQ SUBSCRIPT LESS THAN MEEQ SUBSCRIPT		F1P09530
01334	-0	53400	2	01356	LXD E1CLQ,2		F1P09540
01335	1	77777	2	01336	TXI D4CLQ,2,-1		F1P09550
01336	-3	00000	2	01344	D4CLQ TXL D3CLQ,2,**		F1P09560
01337	0	50000	2	01614	D1CLQ CLA MEEQ,2	NORMALIZE SUBSCRIPTS	F1P09570
01340	0	40000	0	01602	ADD E4CLEQ	OF NEW SYMBOLS	F1P09580
01341	0	62100	2	01614	STA MEEQ,2	IN MEEQ SET	F1P09590
01342	1	77776	2	01343	TXI D2CLQ,2,-2		F1P09600
01343	3	00000	2	01337	D2CLQ TXH D1CLQ,2,**		F1P09610
01344	0	50000	2	01614	D3CLQ CLA MEEQ,2	NORMALIZE SUBSCRIPT	F1P09620
01345	0	40000	0	01602	ADD E4CLEQ	OF LAST NEW SYMBOL	F1P09630
01346	0	62100	2	01614	STA MEEQ,2	ENTERED IN MEEQ SET	F1P09640
01347	0	02000	0	01220	TRA COCLQ	GO TO COMPARISON ROUTINE	F1P09650
					EQ SUBSCRIPT GREATER THAN MEEQ SUBSCRIPT		F1P09660
01350	-0	53400	2	01575	EOCLQ LXD BOX1,2		F1P09670
01351	1	77777	2	01352	TXI E2CLQ,2,-1		F1P09680
01352	0	50000	2	01614	E2CLQ CLA MEEQ,2	NORMALIZE SUBSCRIPTS	F1P09690
01353	0	40000	0	01602	ADD E4CLEQ	OF OLD SYMBOLS	F1P09700
01354	0	62100	2	01614	STA MEEQ,2	IN MEEQ SET	F1P09710

01355	1	77776	2	01356		TXI	E1CLQ,2,-2
01356	3	00000	2	01352	E1CLQ	TXH	E2CLQ,2,**
01357	0	02000	0	01220		TRA	C0CLQ
01360	0	50000	0	01576	END	CLA	BOX2
01361	0	76000	0	00006		COM	
01362	0	40000	0	07741		ADD	DECR2
01363	-0	73400	2	00000		PDX	0,2
01364	-0	75400	2	00000		PXD	0,2
01365	0	62200	0	01613		STD	MEEQM1
REDUNDANCY AND INCONSISTENCY TEST OF EQUIVALENCE SENTENCES							
01366	-0	53400	2	01576		LXD	BOX2,2
01367	-0	63400	2	01417		SXD	M11CLQ,2
01370	0	53400	2	01142		LXA	OADDR,2
01371	-0	63400	2	01575		SXD	BOX1,2
01372	-0	53400	2	01575	M6CLQ	LXD	BOX1,2
01373	0	50000	2	01614		CLA	MEEQ,2
01374	0	60100	0	01577		STO	SMBL
01375	1	77777	2	01376		TXI	M10CLQ,2,-1
01376	0	50000	2	01614	M10CLQ	CLA	MEEQ,2
01377	0	60100	0	01600		STO	SBSCR
01400	1	77777	2	01401		TXI	M1CLQ,2,-1
01401	0	50000	2	01614	M1CLQ	CLA	MEEQ,2
01402	0	34000	0	01577		CAS	SMBL
01403	0	02000	0	01405		TRA	M2CLQ
01404	0	02000	0	01423		TRA	K1CLQ
01405	1	77777	2	01406	M2CLQ	TXI	M3CLQ,2,-1
01406	0	50000	2	01614	M3CLQ	CLA	MEEQ,2
01407	-0	12000	0	01411		TMI	M4CLQ
01410	1	77777	2	01401		TXI	M1CLQ,2,-1
01411	-0	63400	2	01416	M4CLQ	SXD	M7CLQ,2
01412	-0	53400	2	01575	M9CLQ	LXD	BOX1,2
01413	1	77776	2	01414		TXI	M5CLQ,2,-2
01414	-0	63400	2	01575	M5CLQ	SXD	BOX1,2
01415	1	77777	2	01416		TXI	M7CLQ,2,-1
01416	3	00000	2	01372	M7CLQ	TXH	M6CLQ,2,**
01417	-3	00000	2	01450	M11CLQ	TXL	CLQOUT,2,0
01420	1	77777	2	01421		TXI	M8CLQ,2,-1
01421	-0	63400	2	01575	M8CLQ	SXD	BOX1,2
01422	0	02000	0	01372		TRA	M6CLQ
01423	1	77777	2	01424	K1CLQ	TXI	K2CLQ,2,-1
01424	0	50000	2	01614	K2CLQ	CLA	MEEQ,2
01425	-0	12000	0	01443		TMI	K4CLQ
01426	0	34000	0	01600		CAS	SBSCR
01427	0	02000	0	01431		TRA	K3CLQ
01430	1	77777	2	01401		TXI	M1CLQ,2,-1
01431	-0	53400	4	01442	K3CLQ	LXD	NEWTBL,4
01432	3	00000	4	01435		TXH	ERSTOR,4,0
01433	0	50000	0	07743		CLA	FRCON
01434	0	60100	0	01614		STO	MEEQ
01435	0	50000	0	01577	ERSTOR	CLA	SMBL
01436	0	60100	4	01615		STO	MEEQ+1,4
01437	1	77777	4	01440		TXI	SAVIR4,4,-1
01440	-0	63400	4	01442	SAVIR4	SXD	NEWTBL,4
01441	0	02000	0	01412		TRA	M9CLQ

GET NEXT SYMBOL

GO TO COMPARISON ROUTINE

COMPUTE  
NUMBER

OF WORDS  
IN TABLE

MEEQ AND

SAVE WITH TABLE

INITIALIZATION  
OF

INDEXING

OBTAIN

FIXED

SYMBOL

AND

ITS

SUBSCRIPT

GET CHANGING SYMBOL AND  
COMPARE WITH FIXED SYMBOL

NO MATCH

MATCH

HAS END OF CHANGING SYMBOLS  
BEEN REACHED, NO MATCH CASE

YES

NO

PREPARE TO GET  
NEXT FIXED

SYMBOL

TEST END OF MEEQ SET

GET SUBSCRIPT  
OF CHANGING SYMBOL  
END OF SET REACHED  
COMPARE SUBSCRIPTS OF MATCHED SYMBL  
NO MATCH, INCONSISTENT CASE  
MATCH, REDUNDANT CASE

F1P09720  
F1P09730  
F1P09740  
F1P09750  
F1P09760  
F1P09770  
F1P09780  
F1P09790  
F1P09800  
F1P09810  
F1P09820  
F1P09830  
F1P09840  
F1P09850  
F1P09860  
F1P09870  
F1P09880  
F1P09890  
F1P09900  
F1P09910  
F1P09920  
F1P09930  
F1P09940  
F1P09950  
F1P09960  
F1P09970  
F1P09980  
F1P09990  
F1P10000  
F1P10010  
F1P10020  
F1P10030  
F1P10040  
F1P10050  
F1P10060  
F1P10070  
F1P10080  
F1P10090  
F1P10100  
F1P10110  
F1P10120  
F1P10130  
F1P10140  
F1P10150  
F1P10160  
F1P10170  
F1P10180  
F1P10190  
F1P10200  
F1P10210  
F1P10220  
F1P10230  
F1P10240  
F1P10250

```

01442 0 00000 0 00000 NEWTBL HTR 0
01443 0 76000 0 00003 K4CLQ SSP
01444 0 34000 0 01600 CAS SBSCR
01445 0 02000 0 01431 TRA K3CLQ
01446 0 02000 0 01412 TRA M9CLQ
01447 0 02000 0 01431 TRA K3CLQ
01450 -0 53400 4 01442 CLQOUT LXD NEWTBL,4
01451 -3 00000 4 01454 TXL OUT,4,0
01452 0 50000 0 07743 CLA FRCON
01453 0 60100 4 01615 STO MEEQ+1,4
01454 0 07400 1 07656 OUT TSX WAT00,1
01455 0 00000 0 00010 8
01456 0 00000 0 01614 MEEQ
01457 0 07400 1 07505 TSX TAP00,1
01460 0 00000 0 00011 9
01461 0 00000 0 01614 TOT9 9TA
                                PROGRAM FOR REMOVING DUPLICATE ENTRIES FROM TABLE CLOSUB

01462 0 50000 0 01613 RDCTP CLA 9TA-1
01463 0 10000 0 01514 TZE REC07
01464 -0 73400 4 00000 PDX 0,4
01465 0 77100 0 00022 ARS 18
01466 0 40000 0 01461 ADD TOT9
01467 0 62100 0 01473 STA REC01
01470 -0 53400 2 01477 LXD REC03,2
01471 -0 63400 2 01500 SXD REC04,2
01472 0 53400 2 07730 REC00 LXA L(0),2
01473 0 50000 4 00000 REC01 CLA 0,4
01474 0 34000 2 01614 REC02 CAS 9TA,2
01475 0 02000 0 01477 TRA REC03
01476 0 02000 0 01505 TRA REC06
01477 1 77777 2 01500 REC03 TXI REC04,2,-1
01500 3 00000 2 01474 REC04 TXH REC02,2,**
01501 -0 53400 1 01500 LXD REC04,1
01502 1 77777 1 01503 TXI REC05,1,-1
01503 -0 63400 1 01500 REC05 SXD REC04,1
01504 0 60100 2 01614 STO 9TA,2
01505 2 00001 4 01472 REC06 TIX REC00,4,1
01506 -0 53400 4 01500 LXD REC04,4
01507 -0 75400 4 00000 PDX 0,4
01510 0 76000 0 00006 COM
01511 0 40000 0 07731 ADD L(1)
01512 -0 73400 4 00000 PDX 0,4
01513 -0 63400 4 01613 SXD 9TA-1,4
01514 0 07400 1 07656 REC07 TSX WAT00,1
01515 0 00000 0 00011 HTR 9
01516 0 00000 0 01614 HTR 9TA
01517 0 77000 0 00222 WEF 146
01520 0 77200 0 00203 REW 3
01521 0 50000 0 01573 CLA WAT99
01522 0 62100 0 07661 STA WAT09
01523 0 62100 0 07701 STA WAT05+2
01524 0 62100 0 07704 STA WAT07-1
01525 0 62100 0 07721 STA WAT08
01526 0 50000 0 07703 CLA WAT05+4

```

WRITE EQUIT ON TAPE.

ASSEMBLE TABLE CLOSUB

ORIGIN OF TABLE 9  
PROGRAM FOR REMOVING DUPLICATE ENTRIES FROM TABLE CLOSUB

GET NUMBER OF WORDS IN 9TA  
EXIT FOR EMPTY TABLE  
SET INDEX C TO NUM OF WORDS IN 9TA  
COMPUTE TABLE ORIGIN PLUS  
NUMBER OF WORDS IN TABLE  
AND INITIALIZE ADDRESS  
SET INDEX B TO COMP 1 AND  
SAVE COMP 1 IN DECR OF REC04  
SET INDEX B TO ZERO  
GET 9TA WORD AND  
COMPARE WITH 9TA WORD  
9TA WORDS NOT EQUAL  
9TA WORDS ARE EQUAL  
TAKE NEXT 9TA WORD  
TEST FOR END OF NEW 9TA TABLE  
ADD COMP 1 TO DECR OF  
REC04 TO ACCOUNT FOR  
FOLLOWING ENTRY  
ENTER UNEQUAL 9TA WORD IN TABLE  
TEST END OF OLD 9TA TABLE  
GET TWOS COMP OF NUMBER  
OF WORDS ENTERED IN 9TA  
COMPUTE TRUE FIGURE AND  
STORE IN 9TA-1

WRITE MODIFIED  
TABLE CLOSUB  
ON TAPE  
END OF TAPE TABLES FILE

CHANGE WAT SUB ROUTINE TO WRITE ON TAPE 3

NOP

F1P10260  
F1P10270  
F1P10280  
F1P10290  
F1P10300  
F1P10310  
F1P10320  
F1P10330  
F1P10340  
F1P10350  
F1P10360  
F1P10370  
F1P10380  
F1P10390  
F1P10400  
F1P10410  
F1P10420  
F1P10430  
F1P10440  
F1P10450  
F1P10460  
F1P10470  
F1P10480  
F1P10490  
F1P10500  
F1P10510  
F1P10520  
F1P10530  
F1P10540  
F1P10550  
F1P10560  
F1P10570  
F1P10580  
F1P10590  
F1P10600  
F1P10610  
F1P10620  
F1P10630  
F1P10640  
F1P10650  
F1P10660  
F1P10670  
F1P10680  
F1P10690  
F1P10700  
F1P10710  
F1P10720  
F1P10730  
F1P10740  
F1P10750  
F1P10760  
F1P10770  
F1P10780  
F1P10790



01527 0 60100 0 07673  
 01530 0 60100 0 07674  
 01531 0 60100 0 07665  
 01532 0 50000 0 07752  
 01533 0 60100 0 07676  
 01534 0 07400 1 07505  
 01535 0 00000 0 00016  
 01536 0 00000 0 01614  
 01537 0 07400 1 07656  
 01540 0 00000 0 00016  
 01541 0 00000 0 01614  
 01542 0 07400 1 07505  
 01543 0 00000 0 00017  
 01544 0 00000 0 01614  
 01545 0 07400 1 07656  
 01546 0 00000 0 00017  
 01547 0 00000 0 01614  
 01550 0 50000 0 00030  
 01551 0 40000 0 07740  
 01552 0 60100 0 00030  
 01553 -0 50000 0 07741  
 01554 0 76000 0 00006  
 01555 0 32000 0 00020  
 01556 0 50000 0 00034  
 01557 0 34000 0 07731  
 01560 0 02000 0 01564  
 01561 0 50000 0 07741  
 01562 -0 60200 0 00020  
 01563 0 02000 0 01571  
 01564 -0 75400 0 00000  
 01565 0 76000 0 00164  
 01566 0 02000 0 01571  
 01567 0 50000 0 07741  
 01570 -0 60200 0 00020  
 01571 0 76200 0 00221 SPACE  
 01572 0 02000 0 00004  
 01573 0 00000 0 00223 WAT99  
  
 01574 0 00000 0 04551 L(EQ)  
 01575 0 00000 0 00000 BOX1  
 01576 0 00000 0 00000 BOX2  
 01577 0 00000 0 00000 E1CLEQ  
 01600 0 00000 0 00000 E2CLEQ  
 01601 0 00000 0 00000 E3CLEQ  
 01602 0 00000 0 00000 E4CLEQ  
 01603 0 00000 0 00000 E5CLEQ  
  
 01604 0 00000 0 00000 E10  
 01605 0 00000 0 00000 E11  
 01606 0 00000 0 00000 A1BOX  
 01607 0 00000 0 00000 A2BOX  
 01610 0 00000 0 00000 IT1  
 01611 0 00000 0 00000 E1RFT  
 01612 0 00000 0 00000 E2RFT

STO WAT04-1  
 STO WAT04  
 STO WAT03-1  
 CLA TP3TRA  
 STO WAT04+2  
 TSX TAP00+1  
 14  
 XTA  
 TSX WAT00+1  
 14  
 XTA  
 TSX TAP00+1  
 15  
 XTA  
 TSX WAT00+1  
 15  
 XTA  
 CLA EIFNO  
 ADD DECR1  
 STO EIFNO  
 CAL DECR2  
 COM  
 ANS 16  
 CLA ENDI4  
 CAS L(1)  
 TRA \*+4  
 CLA DECR2  
 ORS 16  
 TRA SPACE  
 PXD +0  
 SWT 4  
 TRA SPACE  
 CLA DECR2  
 ORS 16  
 RTB 1  
 TRA 4  
 147  
 EQ  
 WORKING STORAGE FOR PROGRAM CLEQ

OVER COPY IDENTIFICATION  
 OVER COPY WORD COUNT  
 OVER STA FOR WORD COUNT

ASSEMBLE NONEXC TABLE

WRITE NONEXC TABLE ON TAPE 3

ASSEMBLE TSTOPS TABLE

WRITE TSTOPS TABLE AS SECOND RECORD TAPE 3

SET EIFNO TO LAST ADD IN PROBLEM PLUS 1

ADD OF TAPE 3 IN BINARY MODE  
 WORKING STORAGE FOR PROGRAM CLEQ

WORKING STORAGE FOR PROGRAM AMW

AMW2105  
 AMW 2106  
 AMW 2305  
 AMW 2510

F1P10800  
 F1P10810  
 F1P10820  
 F1P10830  
 F1P10840  
 F1P10850  
 F1P10860  
 F1P10870  
 F1P10880  
 F1P10890  
 F1P10900  
 F1P10910  
 F1P10920  
 F1P10930  
 F1P10940  
 F1P10950  
 F1P10960  
 F1P10970  
 F1P10980  
 F1P10990  
 F1P11000  
 F1P11010  
 F1P11020  
 F1P11030  
 F1P11040  
 F1P11050  
 F1P11060  
 F1P11070  
 F1P11080  
 F1P11090  
 F1P11100  
 F1P11110  
 F1P11120  
 F1P11130  
 F1P11140  
 F1P11150  
 F1P11160  
 F1P11170  
 F1P11180  
 F1P11190  
 F1P11200  
 F1P11210  
 F1P11220  
 F1P11230  
 F1P11240  
 F1P11250  
 F1P11260  
 F1P11270  
 F1P11280  
 F1P11290  
 F1P11300  
 F1P11310  
 F1P11320  
 F1P11330

01613 END1PB ORG 907  
01613 XTAM1 BSS 1  
01614 XTA BSS 1500

THIS IS TABLE ASSEMBLY BUFFER OF PART 2

704 FORTRAN MASTER RECORD CARD / 1 PRIME COMMON = F0210000.

00000 0 00004 0 00000  
00001 0 00000 0 07760

ORG 0  
PZE ORG1PC,,1TOCS  
PZE END1PC

COMMON TO SECTION ONE PRIME

04550 ORG1PC ORG 2408  
04550 OTAM1 BSS 1  
04551 OTA BSS 1500

LOCATION OF NUM OF WORDS IN TEIFNO  
BLOCK FOR ASSEMBLED TEIFNO

TABLE ASSEMBLY PROGRAM

07505 0 77200 0 00204 TAP00 REW 4  
07506 -0 60000 0 07754 STQ E2A  
07507 -0 63400 2 07755 SXD E3A,2  
07510 -0 63400 4 07756 SXD E4A,4  
07511 0 50000 1 00001 CLA 1,1  
07512 0 62100 0 07513 STA TAP00+6  
07513 0 73400 2 00000 PAX ,2  
07514 0 76700 0 00001 ALS 1  
07515 0 40000 1 00001 ADD 1,1  
07516 0 40000 0 07630 ADD OAD  
07517 0 62100 0 07574 STA TAP06  
07520 0 62100 0 07541 STA TAP20  
07521 0 40000 0 07732 ADD L(2)  
07522 0 62100 0 07531 STA TAP01  
07523 0 62100 0 07570 STA TAP05  
07524 0 50000 2 07655 CLA MWN+10,2  
07525 0 73400 2 00000 PAX ,2  
07526 -0 63400 2 07601 SXD TAP081,2  
07527 -0 63400 2 07617 SXD OVTEST,2  
07530 0 53400 2 07730 LXA L(0),2  
07531 0 53400 4 00000 TAP01 LXA \*\*,4  
07532 0 50000 1 00002 CLA 2,1  
07533 0 62100 0 07561 STA TAP03  
07534 0 62100 0 07577 STA TAP08  
07535 0 40200 0 07731 SUB L(1)  
07536 0 62100 0 07603 STA TAP11  
07537 0 62100 0 07612 STA TAP12  
07540 -3 00000 4 07570 TXL TAP05,4,0  
07541 0 50000 0 00000 TAP20 CLA \*\*  
07542 0 62200 0 07622 STD TAP14+1  
07543 -0 76000 0 00012 RTT  
07544 3 00000 0 00000 TXH 0,0,0  
07545 0 76600 0 00333 TAP02 IOD  
07546 -0 76000 0 00012 RTT  
07547 1 00001 4 07621 TXI TAP14,4,1  
07550 0 50000 0 07734 CLA L(4)  
07551 0 60100 0 07757 STO E5A  
07552 0 76200 0 00224 READ4 RTB 4

GET TABLE NUMBER

FORM 31

FORM INTET + 31 +2

TABLE MAXIMUM

NO OF BLOCKS OF THIS TABLE ON TAPE 4

TEST FOR NO TAPE RECORDS

TURN OFF INDICATOR

TEST INDICATOR  
ON  
OFF

F1P11340  
F1P11350  
F1P11360  
F1P11370  
F1P11380  
F1P11390  
F1P11400  
F1P11410  
F1P11420  
F1P11430  
F1P11440  
F1P11450  
F1P11460  
F1P11470  
F1P11480  
F1P11490  
F1P11500  
F1P11510  
F1P11520  
F1P11530  
F1P11540  
F1P11550  
F1P11560  
F1P11570  
F1P11580  
F1P11590  
F1P11600  
F1P11610  
F1P11620  
F1P11630  
F1P11640  
F1P11650  
F1P11660  
F1P11670  
F1P11680  
F1P11690  
F1P11700  
F1P11710  
F1P11720  
F1P11730  
F1P11740  
F1P11750  
F1P11760  
F1P11770  
F1P11780  
F1P11790  
F1P11800  
F1P11810  
F1P11820  
F1P11830  
F1P11840  
F1P11850  
F1P11860  
F1P11870

07553	0	70000	0	07753	CPY E1A
07554	0	02000	0	07556	TRA TAP025
07555	0	07400	4	00004	TSX DIAG,4
07556	0	50000	0	07753	TAP025 CLA E1A
07557	0	40200	1	00001	SUB 1,1
07560	-0	10000	0	07552	TNZ READ4
07561	0	70000	2	00000	TAP03 CPY **,2
07562	1	77777	2	07617	TXI OVTEST,2,-1
07563	0	07400	4	00004	TSX DIAG,4
07564	2	00001	4	07545	TIX TAP02,4,1
07565	0	76600	0	00333	TAP04 IOD
07566	-0	76000	0	00012	RTT
07567	0	02000	0	07621	TRA TAP14
07570	0	50000	0	00000	TAP05 CLA **
07571	0	77100	0	00022	ARS 18
07572	0	10000	0	07603	TZE TAP11
07573	0	73400	4	00000	PAX ,4
07574	0	40000	0	00000	TAP06 ADD **
07575	0	62100	0	07576	STA TAP07
07576	0	50000	4	00000	TAP07 CLA **,4
07577	0	60100	2	00000	TAP08 ST0 **,2
07600	1	77777	2	07601	TXI TAP081,2,-1
07601	-3	00000	2	07620	TAP081 TXL OVFLOW,2,**
07602	2	00001	4	07576	TAP09 TIX TAP07,4,1
07603	0	60000	0	00000	TAP11 STZ **
07604	-0	75400	2	00000	PXD ,2
07605	0	10000	0	07613	TZE TAP13
07606	0	77100	0	00022	ARS 18
07607	0	76000	0	00006	COM
07610	0	40000	0	07731	ADD L(1)
07611	0	73400	2	00000	PAX ,2
07612	-0	63400	2	00000	TAP12 SXD **,2
07613	0	56000	0	07754	TAP13 LDQ E2A
07614	-0	53400	2	07755	LXD E3A,2
07615	-0	53400	4	07756	LXD E4A,4
07616	0	02000	1	00003	TRA 3,1
07617	3	00000	2	07561	OVTEST TXH TAP03,2,**
07620	0	07400	4	00004	OVFLOW TSX DIAG,4
07621	0	76400	0	00204	TAP14 BST 4
07622	1	00000	2	07623	TXI TAP14+2,2,**
07623	0	50000	0	07757	CLA E5A
07624	0	40200	0	07731	SUB L(1)
07625	0	60100	0	07757	ST0 E5A
07626	-0	10000	0	07552	TNZ READ4
07627	0	07400	4	00004	TSX DIAG,4
07630	0	00000	0	00322	OAD INTET
			07631	BSS 3	
					MAXIMUM NUMBER OF WORDS ALLOWED IN VARIOUS TABLES
07634	0	00000	0	77634	-100
07635	0	00000	0	77634	-100
07636	0	00000	0	77324	-300
07637	0	00000	0	76422	-750
07640	0	00000	0	76174	-900
07641	0	00000	0	76650	-600

COPY IDENTIFICATION

EOF MACHINE ERROR

TEST FOR RECORD OF TABLE BEING ASSEMBLED

EOF MACHINE ERROR

RETURN TO CALLER

BUFFER AREA EXCEEDED

THREE FAILURES IN READING A RECORD FROM T 4

F1P11880  
F1P11890  
F1P11900  
F1P11910  
F1P11920  
F1P11930  
F1P11940  
F1P11950  
F1P11960  
F1P11970  
F1P11980  
F1P11990  
F1P12000  
F1P12010  
F1P12020  
F1P12030  
F1P12040  
F1P12050  
F1P12060  
F1P12070  
F1P12080  
F1P12090  
F1P12100  
F1P12110  
F1P12120  
F1P12130  
F1P12140  
F1P12150  
F1P12160  
F1P12170  
F1P12180  
F1P12190  
F1P12200  
F1P12210  
F1P12220  
F1P12230  
F1P12240  
F1P12250  
F1P12260  
F1P12270  
F1P12280  
F1P12290  
F1P12300  
F1P12310  
F1P12320  
F1P12330  
F1P12340  
F1P12350  
F1P12360  
F1P12370  
F1P12380  
F1P12390  
F1P12400  
F1P12410

07642 0 00000 0 76174  
 07643 0 00000 0 75152 MWN  
 07644 0 00000 0 75044  
 07645 0 00000 0 75044  
 07646 0 00000 0 76422  
 07647 0 00000 0 76030  
 07650 0 00000 0 75044  
 07651 0 00000 0 75044  
 07652 0 00000 0 77406  
 07653 0 00000 0 76650  
 07654 0 00000 0 76422  
 07655 0 00000 0 76422

-900  
 -1430  
 -1500  
 -1500  
 -750  
 -1000  
 -1500  
 -1500  
 -250  
 -600  
 -750  
 -750

SUBDEF, TABLE 11  
 FORMAT, TABLE 10  
 CLOSUB, TABLE 9  
 EQUIT, TABLE 8  
 FRET, TABLE 7  
 FORVAL, TABLE 6  
 FORVAR, TABLE 5  
 FORTAG, TABLE 4  
 TRAD, TABLE 3  
 TIFGO, TABLE 2  
 TDO, TABLE 1  
 TEIFNO, TABLE 0

F1P12420  
 F1P12430  
 F1P12440  
 F1P12450  
 F1P12460  
 F1P12470  
 F1P12480  
 F1P12490  
 F1P12500  
 F1P12510  
 F1P12520  
 F1P12530  
 F1P12540  
 F1P12550

# PROGRAM FOR WRITING AN ASSEMBLED TABLE ON TAPE

07656 -0 63400 2 07726 WAT00 SXD E1W,2  
 07657 0 50000 0 07734 CLA L(4)  
 07660 0 60100 0 07727 STO E2W  
 07661 0 76600 0 00222 WAT09 WRS 146  
 07662 0 50000 1 00002 CLA 2,1  
 07663 0 40200 0 07731 SUB L(1)  
 07664 0 62100 0 07666 STA WAT03  
 07665 0 62100 0 07674 STA WAT04  
 07666 0 50000 0 00000 WAT03 CLA \*\*  
 07667 0 77100 0 00022 ARS 18  
 07670 0 73400 2 00000 PAX 0,2  
 07671 0 40000 1 00002 ADD 2,1  
 07672 0 62100 0 07677 STA WAT05  
 07673 0 70000 1 00001 CPY 1,1  
 07674 0 70000 0 00000 WAT04 CPY \*\*  
 07675 0 40200 1 00002 SUB 2,1  
 07676 0 10000 0 07724 TZE WAT06  
 07677 0 70000 2 00000 WAT05 CPY 0,2  
 07700 2 00001 2 07677 TIX WAT05,2,1  
 07701 0 76400 0 00222 BST 146  
 07702 -0 76000 0 00012 RTT  
 07703 0 76100 0 00000 NOP  
 07704 0 76200 0 00222 RDS 146  
 07705 0 70000 0 07754 WAT07 CPY E2A  
 07706 0 02000 0 07705 TRA WAT07  
 07707 0 76100 0 00000 NOP  
 07710 0 76600 0 00333 WRS 219  
 07711 -0 76000 0 00012 RTT  
 07712 0 02000 0 07714 TRA WAT10  
 07713 0 02000 0 07724 TRA WAT06  
 07714 0 50000 0 07727 WAT10 CLA E2W  
 07715 0 40200 0 07731 SUB L(1)  
 07716 0 60100 0 07727 STO E2W  
 07717 0 12000 0 07721 TPL WAT08  
 07720 0 07400 4 00004 TSX DIAG,4  
 07721 0 76400 0 00222 WAT08 BST 146  
 07722 0 02000 0 07661 TRA WAT09  
 07723 0 70000 0 07730 CPY L(0)  
 07724 -0 53400 2 07726 WAT06 LXD E1W,2  
 07725 0 02000 1 00003 TRA 3,1

START PROGRAM WAT  
 PREPARE TO COUNT  
 TWO TAPE TESTS  
 PREPARE TO WRITE ON TAPE 2  
 COMPUTE LOCATION OF NUMBER OF WORDS  
 IN TABLE AND INITIALIZE ADDRESSES

ADDRESS IS NTA-1  
 NUMBER OF WORDS IN TABLE PUT IN  
 INDEX B  
 RESET ADDRESS

IDENTIFY TABLE ON TAPE  
 NUM OF WORDS IN TABLE PUT ON TAPE

NO ENTRIES IN TABLE  
 ADDR IS NTA + NUM WORDS IN NTA  
 COPY LOOP

E O R  
 E O F

TAPE CHECK ON  
 TAPE CHECK OFF

STOP FOR THIRD TAPE CHECK

RESTORE INDEX B  
 RETURN TO MAIN PROGRAM

F1P12560  
 F1P12570  
 F1P12580  
 F1P12590  
 F1P12600  
 F1P12610  
 F1P12620  
 F1P12630  
 F1P12640  
 F1P12650  
 F1P12660  
 F1P12670  
 F1P12680  
 F1P12690  
 F1P12700  
 F1P12710  
 F1P12720  
 F1P12730  
 F1P12740  
 F1P12750  
 F1P12760  
 F1P12770  
 F1P12780  
 F1P12790  
 F1P12800  
 F1P12810  
 F1P12820  
 F1P12830  
 F1P12840  
 F1P12850  
 F1P12860  
 F1P12870  
 F1P12880  
 F1P12890  
 F1P12900  
 F1P12910  
 F1P12920  
 F1P12930  
 F1P12940  
 F1P12950

07726	0	00000	0	00000	E1W	
07727	0	00000	0	00000	E2W	
07730	0	00000	0	00000	L(0)	0
07731	0	00000	0	00001	L(1)	1
07732	0	00000	0	00002	L(2)	2
07733	0	00000	0	00003	L(3)	3
07734	0	00000	0	00004	L(4)	4
07735	0	00000	0	00005	L(5)	5
07736	0	00000	0	00010	L(8)	8
07737	0	00000	0	00062	L(50)	50
07740	0	00001	0	00000	DECR1	0,0,1
07741	0	00002	0	00000	DECR2	0,0,2
07742	+000000077777				MSK	OCT 77777
07743	+377777777777				FRCON	OCT 37777777777
07744	0	00000	0	00312	DRL02	202
07745	0	00000	0	00002	TNT2	2
07746	0	00000	0	00000	E3	
07747	0	00000	0	00000	E4	
07750	0	00000	0	04551	L(OTA)	OTA
07751	0	07400	4	00004	TEIFER	TSX DIAG,4
07752	0	10000	0	07723	TP3TRA	TZE WAT06-1
				07753	E1A	BSS 1
				07754	E2A	BSS 1
				07755	E3A	BSS 1
				07756	E4A	BSS 1
				07757	E5A	BSS 1
				07747	E1	SYN E4
				07746	E2	SYN E3
				07505	TAP00	SYN TAP00
				07656	WAT00	SYN WAT00
				07750	L(OTA)	SYN L(OTA)
				00004	DIAG	SYN 4
				03163	COMP	SYN 1TA
				03163	2TA	SYN 1TA
				03163	3TA	SYN 1TA
				07750	TOT0	SYN L(OTA)
				04550	EQM1	SYN OTA-1
				04551	EQ	SYN OTA
				01614	4TA	SYN XTA
				01614	5TA	SYN XTA
				01614	6TA	SYN XTA
				01614	7TA	SYN XTA
				01614	9TA	SYN XTA
				01613	MEEQM1	SYN XTA-1
				01614	MEEQ	SYN XTA
				03172	FRTS	SYN XTA+750
				03564	FRCHS	SYN XTA+1000
				07746	E12	SYN E3
				07747	E1RF	SYN E4
				01577	SMBL	SYN E1CLEQ
				01600	SBSCR	SYN E2CLEQ
				03564	16TA	SYN 6TA+1000
				00004	1TOCS	SYN 4

AMW0503  
 35 ONES. AMW 1318  
 LOCATION OF FIRST WORD ON DRUM  
 NON ERASABLE 0416 TO 0908

F1P12960  
 F1P12970  
 F1P12980  
 F1P12990  
 F1P13000  
 F1P13010  
 F1P13020  
 F1P13030  
 F1P13040  
 F1P13050  
 F1P13060  
 F1P13070  
 F1P13080  
 F1P13090  
 F1P13100  
 F1P13110  
 F1P13120  
 F1P13130  
 F1P13140  
 F1P13150  
 F1P13160  
 F1P13170  
 F1P13180  
 F1P13190  
 F1P13200  
 F1P13210  
 F1P13220  
 F1P13230  
 F1P13240  
 F1P13250  
 F1P13260  
 F1P13270  
 F1P13280  
 F1P13290  
 F1P13300  
 F1P13310  
 F1P13320  
 F1P13330  
 F1P13340  
 F1P13350  
 F1P13360  
 F1P13370  
 F1P13380  
 F1P13390  
 F1P13400  
 F1P13410  
 F1P13420  
 F1P13430  
 F1P13440  
 F1P13450  
 F1P13460  
 F1P13470  
 F1P13480  
 F1P13490

V

THE FOLLOWING SYN CARDS ARE FOR PARAMETERS IN THE CARRY OVER  
FROM SECTION ONE TO SECTION ONE PRIME.

00030	EIFNO	SYN	24	F1P13500
00031	ENDI1	SYN	25	F1P13510
00034	ENDI4	SYN	28	F1P13520
00322	INTET	SYN	210	F1P13530
00417	FXCNIX	SYN	271	F1P13540
00424	FLCNIX	SYN	276	F1P13550
00453	ORGDM1	SYN	299	F1P13560
00455	DIM1IX	SYN	301	F1P13570
00460	ORGDM2	SYN	304	F1P13580
00462	DIM2IX	SYN	306	F1P13590
00465	ORGDM3	SYN	309	F1P13600
00467	DIM3IX	SYN	311	F1P13610
00470	BK	SYN	312	F1P13620
00471	FORSUB	SYN	313	F1P13630
00637	BBOX	SYN	415	F1P13640
00640	CIB	SYN	416	F1P13650
07760	END1PC	BSS	0	F1P13660
00000		END		F1P13670
00001	0	..		F1P13680
				F1P13690
				F1P13700

A

1  
1

ORG 25

00031 ORG 25  
77777 ERLIST SYN 32767  
77633 TABLE SYN ERLIST-100  
75435 TRADT SYN ERLIST-1250  
75434 BETA SYN ERLIST-1251  
75433 TIFGOT SYN ERLIST-1252  
75433 ALPHA SYN ERLIST-1252  
74303 NONEXT SYN ERLIST-1852

00031 0 77200 0 00202 REW 2  
00032 0 77200 0 00203 REW 3  
00033 0 53400 4 01151 LXA IR2,4  
00034 0 76200 0 00202 RDFILE RTD 2  
00035 0 70000 0 00000 CPY 0  
00036 0 02000 0 00034 TRA RDFILE  
00037 2 00001 4 00034 TIX RDFILE,4,1  
00040 0 76200 0 00222 RTB 2  
00041 0 76100 0 00000 NOP  
00042 0 53400 1 01152 LXA IR4,1  
00043 0 70000 1 77634 CP CPY TABLE+1,1  
00044 1 00001 1 00043 TXI CP,1,1  
00045 0 02000 0 00031 TRA831  
00046 2 00001 1 00124 TIX FORSUB,1,1  
00047 0 76200 0 00222 OVER RTB 2  
00050 0 76200 0 00222 RTB 2  
00051 0 76200 0 00222 RTB 2  
00052 0 53400 1 01152 RDREC LXA IR4,1  
00053 0 76200 0 00222 RTB 2  
00054 0 70000 0 01174 CPY IDENT  
00055 0 70000 0 01175 CPY WDCONT  
00056 0 70000 1 77633 COPY CPY TABLE,1  
00057 1 00001 1 00056 CPTXI TXI COPY,1,1  
00060 1 77777 4 00056 COPYAA TXI COPY,4,-1  
00061 -0 75400 1 00000 PXD 0,1  
00062 0 02000 0 01254 RDA TRA PTCH  
00063 0 40200 0 01175 SUBWDS SUB WDCONT  
00064 0 10000 0 00135 RDAAB TZE SIZ  
00065 -0 53400 4 01201 LXD BST,4  
00066 -3 00016 4 00072 TXL TRY,4,14  
00067 0 56000 0 01174 LDQ IDENT  
00070 0 07400 4 01033 BADWC TSX ERROR,4  
00071 0 02000 0 00777 TRA DIAGND  
00072 1 00001 4 00073 TRY TXI RDSXD,4,1  
00073 -0 63400 4 01201 RDSXD SXD BST,4  
00074 0 76400 0 00202 BST 2  
00075 0 02000 0 00052 TRA RDREC  
00076 0 60000 0 01201 IDNTFY STZ BST  
00077 0 53400 2 01253 LXA TAPTAB,2  
00100 0 50000 0 01174 CLA IDENT  
00101 0 34000 2 01253 CAS CAS TAPTAB,2  
00102 0 02000 0 00104 TRA NEXT  
00103 0 02000 0 00116 TRA HAVE  
00104 2 00002 2 00101 NEXT TIX CAS,2,2  
00105 -0 53400 4 01202 LXD BSTA,4

WILL READ ANY KIND OF END FILE MARK

SPACE OVER 2 FILES AND OVER 1ST RECORD OF  
3RD FILE

START AGAIN, CANNOT GET END FILE  
DROP COUNT OF 2ND FILE  
SPACE OVER END FILE AFTER FORSUB  
SPACE OVER FLOCON  
SPACE OVER FORMAT

ALTERNATE FOR READING TRAD CPY TRAD,2  
TIX COPYAA,1,1

NOP GOES HERE AFTER SIZ TABLES ARE READ  
TZE IDNTFY REPLACES THIS AFTER SIZ TABLES READ

FORMAT SIZE AND ALL TAPE TABLES HAVE  
IDENTIFICATION WORD AS FIRST WORD OF  
TAPE RECORD, NOT INCLUDED IN WORD  
COUNT

BACK SPACE RECORD AND TRY AGAIN 15 TIMES

00106 -3 00016 4 00112 TXL TRYA,4,14  
 00107 0 56000 0 01174 LDQ IDENT  
 00110 0 07400 4 01033 NOIDEN TSX ERROR,4  
 00111 0 02000 0 00777 TRA DIAGND  
 00112 1 00001 4 00113 TRYA TXI IDNSXD,4,1  
 00113 -0 63400 4 01202 IDNSXD SXD BSTA,4  
 00114 0 76400 0 00202 BST 2  
 00115 0 02000 0 00052 TRA RDREC  
 00116 0 60000 0 01202 HAVE STZ BSTA  
 00117 0 50000 2 01254 CLA TAPTAB+1,2  
 00120 0 62100 0 00121 STA TRA  
 00121 0 02000 0 00000 TRA TRA 0  
 00122 0 76200 0 00222 NOTIFG RTB 2  
 00123 0 02000 0 00052 TRA RDREC  
 00124 2 00002 1 00126 FORSUB TIX SAVEA,1,2  
 00125 0 53400 1 01152 LXA IR4,1  
 00126 -0 63400 1 00133 SAVEA SXD TXLA,1  
 00127 0 53400 1 01152 LXA IR4,1  
 00130 0 56000 1 77633 LDQA LDQ TABLE,1  
 00131 0 07400 4 01066 TSXA TSX CHECKA,4  
 00132 1 00002 1 00133 TXI TXLA,1,2  
 00133 -3 00000 1 00130 TXLA TXL LDQA,1,0  
 00134 0 02000 0 00047 TRA OVER  
 00135 -3 00000 1 00146 SIZ TXL SETRD,1,0  
 00136 2 00002 1 00140 TIX SAVEB,1,2  
 00137 0 53400 1 01152 LXA IR4,1  
 00140 -0 63400 1 00145 SAVEB SXD TXLB,1  
 00141 0 53400 1 01152 LXA IR4,1  
 00142 0 56000 1 77633 LDQB LDQ TABLE,1  
 00143 0 07400 4 01066 TSXB TSX CHECKA,4  
 00144 1 00002 1 00145 TXI TXLB,1,2  
 00145 -3 00000 1 00142 TXLB TXL LDQB,1,0  
 00146 0 76200 0 00222 SETRD RTB 2  
 00147 0 76200 0 00222 RTB 2  
 00150 0 50000 0 01232 CLA AFTRSZ  
 00151 0 62100 0 00064 STA RDAAB  
 00152 0 50000 0 01205 CLA NOP  
 00153 0 60100 0 00062 STO RDA  
 00154 0 02000 0 00052 TRA RDREC  
 00155 -3 00000 1 00052 SUBARG TXL RDREC,1,0  
 00156 2 00001 1 00160 TIX SAVEC,1,1  
 00157 0 53400 1 01152 LXA IR4,1  
 00160 -0 63400 1 00165 SAVEC SXD TXLC,1  
 00161 0 53400 1 01152 LXA IR4,1  
 00162 0 56000 1 77633 LDQC LDQ TABLE,1  
 00163 0 07400 4 01066 TSXC TSX CHECKA,4  
 00164 1 00001 1 00165 TXI TXLC,1,1  
 00165 -3 00000 1 00162 TXLC TXL LDQC,1,0  
 00166 0 02000 0 00052 TRA RDREC  
 00167 -3 00000 1 00200 UPPER TXL UPPRTB,1,0  
 00170 2 00001 1 00172 TIX SAVED,1,1  
 00171 0 53400 1 01152 LXA IR4,1  
 00172 -0 63400 1 00177 SAVED SXD TXLD,1  
 00173 0 53400 1 01152 LXA IR4,1

IF NECESSARY

IF NO TIFGO ENTRY, IGNORE TRAD ENTRY

IF NO ENTRIES, GET NEXT TAPE RECORDS  
 REDUCE WORD COUNT FOR END OF ENTRIES TEST  
 IF TOO SMALL, SET TO ZERO

START AT FIRST ENTRY, THAT IS IR IS ZERO

GET NEXT 2 WORD ENTRY

SPACE OVER GAP AT END OF 4TH FILE  
 SPACE OVER 5 WORD END RECORD

RESET TEST AT END OF READ LOOP

INITIALIZATION OF END ENTRIES TEST

1 WORD ENTRIES

INITIALIZE END OF ENTRIES TEST



00174	0	56000	1	77633	LDQD	LDQ	TABLE,1
00175	0	07400	4	01066	TSXD	TSX	CHECKA,4
00176	1	00001	1	00177		TXI	TXLD,1,1
00177	-3	00000	1	00174	TXLD	TXL	LDQD,1,0
00200	0	76200	0	00222	UPPRTB	RTB	2
00201	0	02000	0	00052		TRA	RDREC
00202	-3	00000	1	00052	TEIFNO	TXL	RDREC,1,0
00203	2	00001	1	00205		TIX	SAVEE,1,1
00204	0	53400	1	01152		LXA	IR4,1
00205	-0	63400	1	00214	SAVEE	SXD	TXLE,1
00206	0	53400	1	01152		LXA	IR4,1
00207	0	50000	1	77633	CLAE	CLA	TABLE,1
00210	0	12000	0	00213		TPL	TSTE
00211	0	56000	1	77633		LDQ	TABLE,1
00212	0	07400	4	01033	TSXE	TSX	ERROR,4
00213	1	00001	1	00214	TSTE	TXI	TXLE,1,1
00214	-3	00000	1	00207	TXLE	TXL	CLAE,1,0
00215	0	50000	0	01164		CLA	ADTIFG
00216	0	62100	0	00056		STA	COPY
00217	0	02000	0	00052		TRA	RDREC
00220	-3	00000	1	01260	TIFGO	TXL	PATIF,1,0
00221	2	00002	1	00223		TIX	SAVEF,1,2
00222	0	53400	1	01152		LXA	IR4,1
00223	-0	63400	1	00310	SAVEF	SXD	TXLF,1
00224	0	50000	0	01165		CLA	ADTRAD
00225	0	60100	0	00056		STO	COPY
00226	0	50000	0	01166		CLA	CPTRAD
00227	0	62100	0	00057		STA	CPTXI
00230	0	53400	4	01152		LXA	IR4,4
00231	0	02000	0	00052		TRA	RDREC
00232	0	50000	0	01163	TRAD	CLA	ADTABL
00233	0	60100	0	00056		STO	COPY
00234	0	50000	0	00060		CLA	COPYAA
00235	0	62100	0	00057		STA	CPTXI
00236	1	77777	4	00237		TXI	SXDG,4,-1
00237	-0	63400	4	00572	SXDG	SXD	BETANB,4
00240	0	50000	0	00030		CLA	24
00241	0	76100	0	00000		NOP	
00242	0	77100	0	00022		ARS	18
00243	0	60000	0	75434		STZ	BETA
00244	0	62100	0	75434		STA	BETA
00245	0	76200	0	00223		RTB	3
00246	0	53400	2	01152		LXA	IR4,2
00247	0	70000	0	00000	CPNON	CPY	0
00250	-0	53400	4	00000		LXD	0,4
00251	0	02000	0	00253		TRA	PXDH
00252	0	02000	0	00257		TRA	SAVXNB
00253	-0	75400	4	00000	PXDH	PXD	0,4
00254	0	77100	0	00022		ARS	18
00255	0	60100	2	74303		STO	NONEXT,2
00256	1	00001	2	00247		TXI	CPNON,2,1
00257	2	00001	2	00261	SAVXNB	TIX	SAVEH,2,1
00260	0	53400	2	01152		LXA	IR4,2
00261	-0	63400	2	01055	SAVEH	SXD	TXLH,2

1 WORD ENTRIES

NO SCAN OF HOLARG RECORD

INITIALIZE END OF ENTRIES TEST

MINUS ENTRY MEANS BETA IS  
DUPLICATED IN SOURCE PROGRAM

IF NO ENTRIES, IGNORE TRAD IDENTIFICATION

SET READ LOOP TO READ TRAD  
UPWARDS IN MEMORY, BUT  
KEEP TRACK OF WORD COUNT  
AS USUAL

RESTORE COPY LOOP

SAVE NUMBER OF ENTRIES IN BETA TABLE  
ADD ONE TO LAST TEIFNO  
GET LAST TEIFNO

READ IN TABLE OF NON EXECUTABLE  
STATEMENTS AND SAVE  
DECREMENT OF TABLE IN  
ADDRESS OF MEMORY

SET END OF ENTRIES TEST

SET END OF ENTRIES TEST

00262	0	53400	1	01152		LXA	IR4,1
00263	0	50000	1	75433	CLAF	CLA	TIFGOT,1
00264	0	77100	0	00022		ARS	18
00265	0	62100	0	01170		STA	ALFA
00266	0	50000	1	75433		CLA	TIFGOT,1
00267	-0	12000	0	00312		TMI	TIFMI
00270	0	73400	2	00000		PAX	0,2
00271	-3	00000	2	00345		TXL	TIFZRO,2,0
00272	-3	00001	2	00363		TXL	TIFGO1,2,1
00273	-3	00002	2	00410		TXL	TIFGO2,2,2
00274	-3	00003	2	00435		TXL	TIFGO3,2,3
00275	-3	00004	2	00461		TXL	TIFGO4,2,4
00276	-3	00005	2	00505		TXL	TIFGO5,2,5
00277	-3	00006	2	00531		TXL	TIFGO6,2,6
00300	0	56000	1	75433		LDQ	TIFGOT,1
00301	0	07400	4	01033	WHATIF	TSX	ERROR,4
00302	-0	53400	4	00635	NXTIFG	LXD	ALFANB,4
00303	0	50000	0	01170		CLA	ALFA
00304	0	60100	4	75433		STO	ALPHA,4
00305	1	00001	4	00306		TXI	FSAVE,4,1
00306	-0	63400	4	00635	FSAVE	SXD	ALFANB,4
00307	1	00002	1	00310	RETIF6	TXI	TXLF,1,2
00310	-3	00000	1	00263	TXLF	TXL	CLAF,1,0
00311	0	02000	0	00536		TRA	STOPS
00312	-0	32000	0	01157	TIFMI	ANA	ADDMSK
00313	-0	10000	0	00316		TNZ	SAVEB1
00314	0	07400	4	01022	MINB1	TSX	NOBETA,4
00315	0	02000	0	00321		TRA	NOWB2
00316	0	07400	4	01047	SAVEB1	TSX	ISNONX,4
00317	-0	12000	0	00321		TMI	NOWB2
00320	0	07400	4	01131		TSX	MORBTS,4
00321	0	50000	1	75432	NOWB2	CLA	TIFGOT-1,1
00322	0	77100	0	00022		ARS	18
00323	-0	32000	0	01157		ANA	ADDMSK
00324	-0	10000	0	00327		TNZ	SAVEB2
00325	0	07400	4	01022	MINB2	TSX	NOBETA,4
00326	0	02000	0	00332		TRA	NOWB3
00327	0	07400	4	01047	SAVEB2	TSX	ISNONX,4
00330	-0	12000	0	00332		TMI	NOWB3
00331	0	07400	4	01131		TSX	MORBTS,4
00332	0	50000	1	75432	NOWB3	CLA	TIFGOT-1,1
00333	-0	32000	0	01157		ANA	ADDMSK
00334	-0	10000	0	00337		TNZ	SAVEB3
00335	0	07400	4	01022	MINB3	TSX	NOBETA,4
00336	0	02000	0	00342		TRA	ALFAD1
00337	0	07400	4	01047	SAVEB3	TSX	ISNONX,4
00340	-0	12000	0	00342		TMI	ALFAD1
00341	0	07400	4	01131		TSX	MORBTS,4
00342	0	50000	0	01156	ALFAD1	CLA	DECTRE
00343	0	62200	0	01170		STD	ALFA
00344	0	02000	0	00302		TRA	NXTIFG
00345	0	50000	1	75432	TIFZRO	CLA	TIFGOT-1,1
00346	-0	32000	0	01157		ANA	ADDMSK
00347	-0	10000	0	00352		TNZ	TIFOB

SAVE ALPHA IN CASE OF ERROR, AND  
ALSO TO PUT IN ALPHA TABLE AT  
END OF PROCESSING EACH KIND OF TIFGO  
DETERMINE KIND OF ENTRY

NOT IDENTIFYABLE, SAVE IN ERROR  
TABLE, BUT PUT ALPHA IN TABLE ANYWAY  
STORE ALPHA IN TABLE

TYPE 6 TIFGO ENTRIES DO NOT GO IN  
ALPHA TABLE  
WHEN TIFGO FINISHED, READ IN STOPS

IF BETA IS ZERO, THERE WAS NO ENTRY  
CORRESPONDING TO IT IN COL 1 TO 5 OF  
SOURCE PROGRAM, SKIP REST OF PROCESSING  
IF BETA IS NOT EXECUTABLE, DO NOT PUT IN  
BETA TABLE

00350	0	07400	4	01022	TSXTFO	TSX NOBETA,4
00351	0	02000	0	00355		TRA NEXTI
00352	0	07400	4	01047	TIFOB	TSX ISNONX,4
00353	-0	12000	0	00355		TMI NEXTI
00354	0	07400	4	01131		TSX MORBTS,4
00355	0	50000	1	75432	NEXTI	CLA TIFGOT-1,1
00356	-0	73400	4	00000		PDX 0,4
00357	3	00000	4	00307		TXH RETIF6,4,0
00360	0	50000	0	01154		CLA DECONE
00361	0	62200	0	01170		STD ALFA
00362	0	02000	0	00302		TRA NXTIFG
00363	0	60000	0	01172	TIFG01	STZ TRADNB
00364	0	50000	1	75432	CLAJ	CLA TIFGOT-1,1
00365	-0	73400	2	00000		PDX 0,2
00366	0	76700	0	00022		ALS 18
00367	0	62200	0	00404		STD TXHJ
00370	0	50000	2	76027	MORTR	CLA TRADT+250,2
00371	-0	10000	0	00374		TNZ TRADX1
00372	0	07400	4	01022	BTIFG1	TSX NOBETA,4
00373	0	02000	0	00400		TRA ADDJ
00374	0	07400	4	01047	TRADX1	TSX ISNONX,4
00375	0	12000	0	00400		TPL ADDJ
00376	0	50000	0	01154		CLA DECONE
00377	0	62200	2	76027		STD TRADT+250,2
00400	0	50000	0	01172	ADDJ	CLA TRADNB
00401	0	40000	0	01154		ADD DECONE
00402	0	60100	0	01172		STO TRADNB
00403	1	77777	2	00404		TXI TXHJ,2,-1
00404	3	00000	2	00370	TXHJ	TXH MORTR,2,0
00405	0	50000	0	01172		CLA TRADNB
00406	0	62200	0	01170		STD ALFA
00407	0	02000	0	00302		TRA NXTIFG
00410	0	60000	0	01172	TIFG02	STZ TRADNB
00411	0	50000	1	75432	CLAK	CLA TIFGOT-1,1
00412	-0	73400	2	00000		PDX 0,2
00413	0	76700	0	00022		ALS 18
00414	0	62200	0	00431		STD TXHK
00415	0	50000	2	76027	MORTRD	CLA TRADT+250,2
00416	-0	10000	0	00421		TNZ TRADX2
00417	0	07400	4	01022	BTIFG2	TSX NOBETA,4
00420	0	02000	0	00425		TRA ADDK
00421	0	07400	4	01047	TRADX2	TSX ISNONX,4
00422	0	12000	0	00425		TPL ADDK
00423	0	50000	0	01154		CLA DECONE
00424	0	62200	2	76027		STD TRADT+250,2
00425	0	50000	0	01172	ADDK	CLA TRADNB
00426	0	40000	0	01154		ADD DECONE
00427	0	60100	0	01172		STO TRADNB
00430	1	77777	2	00431		TXI TXHK,2,-1
00431	3	00000	2	00415	TXHK	TXH MORTRD,2,0
00432	0	50000	0	01172		CLA TRADNB
00433	0	62200	0	01170		STD ALFA
00434	0	02000	0	00302		TRA NXTIFG.
00435	0	50000	1	75432	TIFG03	CLA TIFGOT-1,1

KEEP TRACK OF NUMBER OF BETAS

DO NOT PUT IN ALPHA TABLE IF  
ENTRY BY IRV FOR SAP INSTRUCTIONS

PREPARE TO READ RELATED TRAD ENTRIES

IF TRAD IS NON EXECUTABLE, MAKE ENTRY  
FAIL ANY ALPHA PLUS 1 SEARCH LATER ON  
BY PUTING NUMBER IN DECFIELD  
BUT KEEP TRACK OF NUMBER OF BRANCHES GIVEN

00436	0	77100	0	00022	ARS	18
00437	-0	32000	0	01157	ANA	ADDMSK
00440	-0	10000	0	00443	TNZ	TIF3B1
00441	0	07400	4	01022	B1TIF3	TSX NOBETA,4
00442	0	02000	0	00446	TRA	NEXTL
00443	0	07400	4	01047	TIF3B1	TSX ISNONX,4
00444	-0	12000	0	00446	TMI	NEXTL
00445	0	07400	4	01131	TSX	MORBTS,4
00446	0	50000	1	75432	NEXTL	CLA TIFGOT-1,1
00447	-0	32000	0	01157	ANA	ADDMSK
00450	-0	10000	0	00453	TNZ	TIF3B2
00451	0	07400	4	01022	B2TIF3	TSX NOBETA,4
00452	0	02000	0	00456	TRA	ADDL
00453	0	07400	4	01047	TIF3B2	TSX ISNONX,4
00454	-0	12000	0	00456	TMI	ADDL
00455	0	07400	4	01131	TSX	MORBTS,4
00456	0	50000	0	01155	ADDL	CLA DECTWO
00457	0	62200	0	01170	STD	ALFA
00460	0	02000	0	00302	TRA	NXTIFG
00461	0	50000	1	75432	TIFG04	CLA TIFGOT-1,1
00462	0	77100	0	00022	ARS	18
00463	-0	32000	0	01157	ANA	ADDMSK
00464	-0	10000	0	00467	TNZ	TIF4B1
00465	0	07400	4	01022	B1TIF4	TSX NOBETA,4
00466	0	02000	0	00472	TRA	NEXTM
00467	0	07400	4	01047	TIF4B1	TSX ISNONX,4
00470	-0	12000	0	00472	TMI	NEXTM
00471	0	07400	4	01131	TSX	MORBTS,4
00472	0	50000	1	75432	NEXTM	CLA TIFGOT-1,1
00473	-0	32000	0	01157	ANA	ADDMSK
00474	-0	10000	0	00477	TNZ	TIF4B2
00475	0	07400	4	01022	B2TIF4	TSX NOBETA,4
00476	0	02000	0	00502	TRA	ADDM
00477	0	07400	4	01047	TIF4B2	TSX ISNONX,4
00500	-0	12000	0	00502	TMI	ADDM
00501	0	07400	4	01131	TSX	MORBTS,4
00502	0	50000	0	01155	ADDM	CLA DECTWO
00503	0	62200	0	01170	STD	ALFA
00504	0	02000	0	00302	TRA	NXTIFG
00505	0	50000	1	75432	TIFG05	CLA TIFGOT-1,1
00506	0	77100	0	00022	ARS	18
00507	-0	32000	0	01157	ANA	ADDMSK
00510	-0	10000	0	00513	TNZ	TIF5B1
00511	0	07400	4	01022	B1TIF5	TSX NOBETA,4
00512	0	02000	0	00516	TRA	NEXTN
00513	0	07400	4	01047	TIF5B1	TSX ISNONX,4
00514	-0	12000	0	00516	TMI	NEXTN
00515	0	07400	4	01131	TSX	MORBTS,4
00516	0	50000	1	75432	NEXTN	CLA TIFGOT-1,1
00517	-0	32000	0	01157	ANA	ADDMSK
00520	-0	10000	0	00523	TNZ	TIF5B2
00521	0	07400	4	01022	B2TIF5	TSX NOBETA,4
00522	0	02000	0	00526	TRA	ADDN
00523	0	07400	4	01047	TIF5B2	TSX ISNONX,4

00524	-0	12000	0	00526	TMI	ADDN
00525	0	07400	4	01131	TSX	MORBTS,4
00526	0	50000	0	01155	ADDN	CLA DECTWO
00527	0	62200	0	01170	STD	ALFA
00530	0	02000	0	00302	TRA	NXTIFG
00531	0	50000	1	75432	TIFG06	CLA TIFGOT-1,1
00532	-0	32000	0	01157	ANA	ADDMSK
00533	-0	10000	0	00307	TNZ	RETIF6
00534	0	07400	4	01022	TIF6B	TSX NOBETA,4
00535	0	02000	0	00307	TRA	RETIF6
00536	0	76200	0	00223	STOPS	RTB 3
00537	-0	53400	1	00635	LXD	ALFANB,1
00540	0	70000	0	00000	CPSTOP	CPY 0
00541	-0	53400	4	00000	LXD	0,4
00542	0	02000	0	00544	TRA	PDXP
00543	0	02000	0	00550	TRA	TIXP
00544	-0	75400	4	00000	PDXP	PXD 0,4
00545	0	77100	0	00022	ARS	18
00546	0	60100	1	75433	STO	ALPHA,1
00547	1	00001	1	00540	TXI	CPSTOP,1,1
00550	2	00001	1	00552	TIXP	TIX NEXTP,1,1
00551	0	53400	1	01152	LXA	IR4,1
00552	-0	63400	1	00600	NEXTP	SXD ENDALF,1
00553	-0	63400	1	00635	SXD	ALFANB,1
00554	-0	63400	1	00754	SXD	FRETST,1
00555	0	50000	0	01167	CLA	CHNONX
00556	0	62100	0	01053	STA	YESNOX
00557	0	53400	1	01152	LXA	IR4,1
00560	0	50000	1	75433	CLAQ	CLA ALPHA,1
00561	0	02000	0	01271	QADD	TRA PAQADD
00562	0	60000	0	01170	ADDQ	STZ ALFA
00563	0	62100	0	01170	STA	ALFA
00564	0	53400	2	01152	LXA	IR4,2
00565	0	50000	2	75434	NXTBTA	CLA BETA,2
00566	0	34000	0	01170	CAS	ALFA
00567	0	02000	0	00571	TRA	NEXTQ
00570	0	02000	0	00577	TRA	NXTALF
00571	1	77777	2	00572	NEXTQ	TXI BETANB,2,-1
00572	3	00000	2	00565	BETANB	TXH NXTBTA,2,0
00573	0	50000	0	01170	CLA	ALFA
00574	0	07400	4	01047	TSX	ISNONX,4
00575	-0	12000	0	00602	TMI	ALAND1
00576	0	07400	4	01022	NOTRA	TSX NOBETA,4
00577	1	00001	1	00600	NXTALF	TXI ENDALF,1,1
00600	-3	00000	1	00560	ENDALF	TXL CLAQ,1,0
00601	0	02000	0	00052	TRA	RDREC
00602	0	50000	0	01170	ALAND1	CLA ALFA
00603	0	02000	0	00561	TRA	QADD
00604	-3	00000	1	00723	TDO	TXL SPACES,1,0
00605	2	00005	1	00607	TIX	SAVES,1,5
00606	0	53400	1	01152	LXA	IR4,1
00607	-0	63400	1	00722	SAVES	SXD TXLS,1
00610	0	53400	1	01152	LXA	IR4,1
00611	0	50000	1	77633	CLADO	CLA TABLE,1

LOAD NUMBER ALREADY IN ALPHA TABLE  
 READ TABLE OF STOPS INTO REST OF  
 ALPHA TABLE, PUT DECREMENT OF  
 TAPE TABLE INTO ADDRESS OF MEMORY

RESET ISNONX ROUTINE SO IT IS  
 MERELY INFORMATIVE AND DOES NOT  
 MAKE ENTRIES IN ERROR TABLE

IF ALPHA PLUS 1 IN NONX, THEN LOOK IN BETA  
 TABLE FOR ALPHA +2 ETC  
 NOT EITHER TABLE, PART OF PROG NOT ENTERED

INITIALIZE END OF ENTRIES TEST

00612	-0	32000	0	01160	ANA	TAGMSK
00613	0	76700	0	00022	ALS	18
00614	0	63000	0	01203	STP	DOTAG
00615	0	50000	1	77633	CLA	TABLE,1
00616	0	77100	0	00022	ARS	18
00617	0	62100	0	01170	STA	ALFA
00620	0	50000	1	77633	CLA	TABLE,1
00621	-0	32000	0	01157	ANA	ADDMSK
00622	-0	10000	0	00625	TNZ	BINTIF
00623	0	07400	4	01022	DONOB	TSX NOBETA,4
00624	0	02000	0	00643	TRA	DOALF
00625	0	53400	2	01152	BINTIF	LXA IR4,2
00626	0	60100	0	01204	STO	DOBETA
00627	0	50000	2	75433	SCLA	CLA ALPHA,2
00630	-0	32000	0	01157	ANA	ADDMSK
00631	0	34000	0	01204	CAS	DOBETA
00632	0	02000	0	00634	TRA	TIXS
00633	0	02000	0	00727	TRA	CONBET
00634	1	00001	2	00635	TIXS	TXI ALFANB,2,1
00635	-3	00000	2	00627	ALFANB	TXL SCLA,2,0
00636	0	50000	0	01204	CLA	DOBETA
00637	0	07400	4	01047	TSX	ISNONX,4
00640	0	12000	0	00643	TPL	DOALF
00641	0	07400	4	01022	DOBTNX	TSX NOBETA,4
00642	0	07400	4	01141	TSX	ADOB,4
00643	0	50000	0	01170	DOALF	CLA ALFA
00644	-0	32000	0	01157	ANA	ADDMSK
00645	0	40000	0	01153	ADD	ADDONE
00646	0	07400	4	01047	TSX	ISNONX,4
00647	0	12000	0	00652	TPL	DOSYMB
00650	0	07400	4	01022	DOALNX	TSX NOBETA,4
00651	0	07400	4	01141	TSX	ADOB,4
00652	0	56000	1	77632	DOSYMB	LDQ TABLE-1,1
00653	0	07400	4	01066	PUNSYM	TSX CHECKA,4
00654	0	12000	0	00656	TPL	IJKSYM
00655	0	07400	4	01141	TSX	ADOB,4
00656	0	07400	4	01113	IJKSYM	TSX CHECKB,4
00657	0	12000	0	00661	TPL	N1
00660	0	07400	4	01141	TSX	ADOB,4
00661	-0	50000	0	01203	N1	CAL DOTAG
00662	-0	76000	0	00001	PBT	
00663	0	02000	0	00674	TRA	N2+1
00664	0	56000	1	77631	LDQ	TABLE-2,1
00665	0	07400	4	01066	PUNN1	TSX CHECKA,4
00666	0	12000	0	00670	TPL	IJKN1
00667	0	07400	4	01141	TSX	ADOB,4
00670	0	07400	4	01113	IJKN1	TSX CHECKB,4
00671	0	12000	0	00673	TPL	N2
00672	0	07400	4	01141	TSX	ADOB,4
00673	-0	50000	0	01203	N2	CAL DOTAG
00674	0	76700	0	00001	ALS	1
00675	-0	76000	0	00001	PBT	
00676	0	02000	0	00706	TRA	N3
00677	0	56000	1	77630	LDQ	TABLE-3,1

SAVE TAG FIELD FOR PROCESSING N1,N2,N3

SAVE ALPHA IN CASE OF ERROR

IS BETA IN DO TABLE A CONDITIONAL  
TRANSFER, THAT IS, IS IT IN ALPHA TABLE

MASK OUT NUMBER OF BRANCHES

THIS IS AN ERROR

IF BETA IN TO IS NON EXECUTABLE THIS

CLEAR ANY HASH LEFT FROM ERROR RECODING

IF ALPHA PLUS 1 IS NON EXECUTABLE  
THIS IS ERROR

DOES SYMBOL CONTAIN ANY ILLEGAL  
PUNCTUATION

DOES SYMBOL BEGIN WITH IJKLM OR N

NO  
YES

00700	0	07400	4	01066	PUNN2	TSX	CHECKA,4
00701	0	12000	0	00703		TPL	IJKN2
00702	0	07400	4	01141		TSX	ADOB,4
00703	0	07400	4	01113	IJKN2	TSX	CHECKB,4
00704	0	12000	0	00706		TPL	N3
00705	0	07400	4	01141		TSX	ADOB,4
00706	-0	50000	0	01203	N3	CAL	DOTAG
00707	0	76700	0	00002		ALS	2
00710	-0	76000	0	00001		PBT	
00711	0	02000	0	00721		TRA	NXTDO
00712	0	56000	1	77627		LDQ	TABLE-4,1
00713	0	07400	4	01066	PUNN3	TSX	CHECKA,4
00714	0	12000	0	00716		TPL	IJKN3
00715	0	07400	4	01141		TSX	ADOB,4
00716	0	07400	4	01113	IJKN3	TSX	CHECKB,4
00717	0	12000	0	00721		TPL	NXTDO
00720	0	07400	4	01141		TSX	ADOB,4
00721	1	00005	1	00722	NXTDO	TXI	TXLS,1,5
00722	-3	00000	1	00611	TXLS	TXL	CLADO,1,0
00723	0	76200	0	00222	SPACES	RTB	2
00724	0	76200	0	00222		RTB	2
00725	0	76200	0	00222		RTB	2
00726	0	02000	0	00052		TRA	RDREC
00727	0	07400	4	01022	CONBET	TSX	NOBETA,4
00730	0	07400	4	01141		TSX	ADOB,4
00731	0	02000	0	00643		TRA	DOALF
00732	-3	00002	1	00052	FRET	TXL	RDREC,1,2
00733	0	53400	2	01152	NEXTT	LXA	IR4,2
00734	0	50000	1	77634	CLAT	CLA	TABLE+1,1
00735	-0	12000	0	00740		TMI	NEWFRT
00736	1	00001	2	00737		TXI	TNEXT,2,1
00737	2	00001	1	00734	TNEXT	TIX	CLAT,1,1
00740	-0	63400	2	01206	NEWFRT	SXD	FRETNB,2
00741	-0	32000	0	01157		ANA	ADDMSK
00742	0	60100	0	01170		STO	ALFA
00743	-0	10000	0	00745		TNZ	BRANCH
00744	0	02000	0	00763		TRA	NXTFRT
00745	0	53400	4	01152	BRANCH	LXA	IR4,4
00746	0	50000	4	75433	TCLAT	CLA	ALPHA,4
00747	-0	32000	0	01157		ANA	ADDMSK
00750	0	34000	0	01170		CAS	ALFA
00751	0	02000	0	00753		TRA	TIXT
00752	0	02000	0	00756		TRA	HAVALF
00753	1	00001	4	00754	TIXT	TXI	FRETST,4,1
00754	-3	00000	4	00746	FRETST	TXL	TCLAT,4,0
00755	0	02000	0	00763		TRA	NXTFRT
00756	0	50000	4	75433	HAVALF	CLA	ALPHA,4
00757	-0	32000	0	01161		ANA	DECMSK
00760	0	40200	0	01206		SUB	FRETNB
00761	0	12000	0	00763		TPL	NXTFRT
00762	0	07400	4	01022	FRETIF	TSX	NOBETA,4
00763	2	00001	1	00733	NXTFRT	TIX	NEXTT,1,1
00764	0	02000	0	00052		TRA	RDREC
00765	0	50000	0	77633	EQUIV	CLA	TABLE

SPACE OVER FORVAL  
SPACE OVER FORVAR  
SPACE OVER FORTAG

AND TEST ALPHA  
GO THRO THIS TABLE FROM LAST TO FIRST

WILL NOT FAIL BEFORE THE TMI  
SAVE NUMBER OF FREQUENCIES

FREQUENCY OF BETA IS IGNORED BY  
FORTRAN IF NO CORRESPONDING BETA IN  
COLUMN 1 TO 5 OF SOURCE PROGRAM

SET AT END OF READING IN STOP TABLE

THE ONLY TIME A FREQUENCY STATEMENT CAN  
LOUSE UP THE OBJECT PROGRAM IS WHEN  
THERE ARE MORE FREQUENCIES GIVEN THAN  
BRANCHES.

FIRST WORD IN TABLE WILL BE 35 ONES

00766	0	40200	0	01162	SUB	MSK35	IF THERE HAVE BEEN INCONSISTANT
00767	-0	10000	0	00777	TNZ	DIAGND	
00770	0	53400	1	01152	LXA	IR4,1	
00771	0	50000	1	77632	NXTEQV	CLA TABLE-1,1	
00772	0	40200	0	01162	SUB	MSK35	LAST INCONSISTANCY IS FOLLOWED BY
00773	0	10000	0	00777	TZE	DIAGND	ANOTHER WORD OF ONES
00774	0	56000	1	77632	LDQ	TABLE-1,1	
00775	0	07400	4	01033	NOTEQV	TSX ERROR,4	
00776	1	00001	1	00771	TXI	NXTEQV,1,1	
00777	0	50000	0	01173	DIAGND	CLA ERNBR	
01000	0	10000	0	01263	TZE	SPACE2	IF NO ERROR, READ IN SECTION II
01001	0	60100	0	00030	STO	24	SAVE FOR BIG D
01002	0	50000	0	01171	CLA	TW13	PUT RECORD NUMBER IN 2 FOR PRINT OUT
01003	0	60100	0	00002	STO	2	
01004	0	53400	2	01152	LXA	IR4,2	
01005	0	76200	0	00201	DIAGRD	RTD 1	SPACE OVER REST OF SYSTEM IN FORTRAN
01006	0	70000	0	00000	CPY	0	
01007	0	02000	0	01005	TRA	DIAGRD	
01010	1	00001	2	01011	TXI	TST2FL,2,1	
01011	-3	00001	2	01005	TST2FL	TXL DIAGRD,2,1	END FILE SKIP, START TO READ BIG D
01012	0	76200	0	00221	RTB	1	
01013	0	53400	1	01152	LXA	IR4,1	
01014	0	70000	1	00031	DCPY	CPY 25,1	
01015	1	77777	1	01014	TXI	DCPY,1,-1	
01016	0	76100	0	00000	NOP		
01017	0	07400	4	00032	BIGD	TSX 26,4	
01020	0	76100	0	00000	REW	NOP	REPLACED BY SPACE2 AT 1263. WAS REWIND
01021	0	76100	0	00000	NOP		
							ENTER WITH AC ZERO. EXIT WITH TSX FROM TABLE
							WHICH HAS MISSING BETA, IN DEC OF AC AND
							ALPHA IN ADDRESS OF AC.
01022	-0	63400	4	01170	NOBETA	SXD ALFA,4	
01023	0	07400	4	01026	TSX	SAVALF,4	
01024	-0	53400	4	01170	LXD	ALFA,4	
01025	0	02000	4	00001	TRA	1,4	ENTER WITH HASH IN AC. EXIT WITH CONTENTS OF ALPHA IN AC.
01026	-0	63400	4	01177	SAVALF	SXD ERAS,4	
01027	-0	53400	4	01173	LXD	ERNBR,4	
01030	0	50000	0	01170	CLA	ALFA	
01031	0	60100	4	77777	STO	ERLIST,4	
01032	1	00001	4	01044	TXI	NEXTA,4,1	SAME RETURN AS ERROR ROUTINE.
							ENTER WITH MQ=BCD SYMBOL OR HASH,0, ALPHA
							MAKES 2 WORD ENTRY IN ERROR LIST
							1...KIND OF ERROR,0, TABLE IN WHICH ERROR FOUND
							2...CONTENTS OF MQ
							EXIT AC HASH, MQ NOT CHANGED
01033	-0	75400	4	00000	ERROR	PXD 0,4	PUT TSX FROM SECTION SCANNING
01034	-0	53400	4	01173	LXD	ERNBR,4	FOR ERROR, IN DEC OF 1ST WORD
01035	0	62200	0	01177	STD	ERAS	
01036	0	62200	4	77777	STD	ERLIST,4	
01037	0	50000	0	01152	CLA	IR4	PUT TSX FROM OABLE IN WHI+H
01040	0	77100	0	00022	ARS	18	ERROR WAS FOUND, IN ADDR. OF 1ST WORD
01041	0	62100	4	77777	STA	ERLIST,4	
01042	-0	60000	4	77776	STQ	ERLIST-1,4	PUT MQ IN 2ND WORD



01043	1	00002	4	01044		TXI	NEXTA,4,2	
01044	-0	63400	4	01173	NEXTA	SXD	ERNBR,4	
01045	-0	53400	4	01177		LXD	ERAS,4	
01046	0	02000	4	00001		TRA	1,4	
								ENTER WITH AC ALL ZERO, EXCEPT ADDRESS WHICH HAS BETA FROM TIFGO OR TDO, OR ALPHA+1 FROM SAME. EXIT SAME, EXCEPT WHERE MATCH IS FOUND, THEN AC HAS HASH
01047	-0	63400	4	01152	ISNONX	SXD	IR4,4	ERROR WILL RECORD WHICH TABLE WAS SCANNED
01050	0	02000	0	01274		TRA	PATS2	
01051	0	34000	2	74303	CASH	CAS	NONEXT,2	
01052	0	02000	0	01054		TRA	NEXTH	
01053	0	02000	0	01057	YESNOX	TRA	NONEXB	THIS WILL BE CHANGED TO BYPASS ERROR WHEN SCANNING BETA TABLE
01054	1	00001	2	01055	NEXTH	TXI	TXLH,2,1	
01055	-3	00000	2	01051	TXLH	TXL	CASH,2,0	
01056	0	02000	0	01277		TRA	PATRE2	
01057	0	76700	0	00022	NONEXB	ALS	18	ERROR, SAVE BETA AND ALPHA IN LIST
01060	0	62200	0	01170		STD	ALFA	
01061	0	56000	0	01170		LDQ	ALFA	
01062	0	07400	4	01033	TSXH	TSX	ERROR,4	
01063	-0	53400	4	01152	INFORM	LXD	IR4,4	
01064	-0	76000	0	00003		SSM		SET RETURN TO SHOW ERROR
01065	0	02000	0	01277		TRA	PATRE2	
								ENTER WITH HASH IN AC, MQ HAS BCD SYMBOL. EXIT WITH HASH IN AC AND MQ, SYMBOL IS STORED IN NAME. DC IS MINUS ONLY WHEN ILLEGAL CHARACTER PRESENT
01066	-0	60000	0	01176	CHECKA	STQ	NAME	
01067	-0	63400	4	01152		SXD	IR4,4	
01070	-0	63400	2	01151		SXD	IR2,2	
01071	-0	63400	1	01150		SXD	IR1,1	
01072	-0	53400	1	01231		LXD	SYMBL,1	6 INTO IR1
01073	0	53400	2	01231	NXTNAM	LXA	SYMBL,2	10 INTO IR2
01074	-0	75400	0	00000		PXD	0,0	CLEAR AC AND COMPARE NEXT BCD
01075	-0	76300	0	00006		LGL	6	CHARACTER WITH TABLE OF ILLEGAL SYMBOLS
01076	0	34000	2	01231	ACAS	CAS	SYMBL,2	
01077	0	02000	0	01101		TRA	ATIX	
01100	0	02000	0	01107		TRA	WRONG	
01101	2	00001	2	01076	ATIX	TIX	ACAS,2,1	GET NEXT ILLEGAL SYMBOL FOR COMPARISON
01102	2	00001	1	01073		TIX	NXTNAM,1,1	GET NEXT BCD CHARACTER FOR COMPARISON
01103	-0	53400	4	01152	RETNA	LXD	IR4,4	
01104	-0	53400	2	01151		LXD	IR2,2	
01105	-0	53400	1	01150		LXD	IR1,1	
01106	0	02000	4	00001		TRA	1,4	
01107	0	56000	0	01176	WRONG	LDQ	NAME	
01110	0	07400	4	01033	CHATSX	TSX	ERROR,4	
01111	-0	76000	0	00003		SSM		SIGNAL THAT ERROR HAS BEEN PICKED UP
01112	0	02000	0	01103		TRA	RETNA	
								ENTER WITH HASH IN AC + MQ. EXIT SAME EXCEPT WHERE NO MATCH- THEN MINUS
01113	0	56000	0	01176	CHECKB	LDQ	NAME	
01114	-0	63400	4	01152		SXD	IR4,4	
01115	0	53400	4	01215		LXA	IJK,4	
01116	-0	75400	0	00000		PXD	0,0	
01117	-0	76300	0	00006		LGL	6	
01120	0	34000	4	01215	BCAS	CAS	IJK,4	

01121	0	02000	0	01123	TRA	BTIX
01122	0	02000	0	01127	TRA	RETNB
01123	2	00001	4	01120	BTIX	TIX BCAS,4,1
01124	0	56000	0	01176	LDQ	NAME
01125	0	07400	4	01033	CHBTSX	TSX ERROR,4
01126	-0	76000	0	00003	SSM	
01127	-0	53400	4	01152	RETNB	LXD IR4,4
01130	0	02000	4	00001	TRA	1,4

ENTER WITH BETA FROM TIFGO ENTRIES WHICH ARE MINUS OR HAVE 0,  
3,4,5 OR 6 IN ADDRESS OF 1ST WORD. TIFGO 1 AND 2 ARE ALREADY  
IN BETA TABLE. EXIT WITH SAME.

01131	-0	63400	4	01177	MORBTB	SXD ERAS,4
01132	-0	53400	4	00572	LXD	BETANB,4
01133	0	60100	4	75434	STOBET	STO BETA,4
01134	1	77777	4	01135	TXI	STBET,4,-1
01135	-0	63400	4	00572	STBET	SXD BETANB,4
01136	-0	63400	4	00572		SXD BETANB,4
01137	-0	53400	4	01177	LXD	ERAS,4
01140	0	02000	4	00001	TRA	1,4
01141	-0	63400	4	01177	ADOB	SXD ERAS,4
01142	-0	53400	4	01173	LXD	ERNBR,4
01143	0	50000	1	77633	CLA	TABLE,1
01144	0	60100	4	77777	STO	ERLIST,4
01145	0	50000	1	77632	CLA	TABLE-1,1
01146	0	60100	4	77776	STO	ERLIST-1,4
01147	1	00002	4	01044	TXI	NEXTA,4,2
01150	0	00000	0	00000	IR1	HTR
01151	0	00000	0	00002	IR2	HTR 2
01152	0	00000	0	00000	IR4	HTR 0
01153	0	00000	0	00001	ADDONE	HTR 1
01154	0	00001	0	00000	DECONE	HTR 0,0,1
01155	0	00002	0	00000	DECTWO	HTR 0,0,2
01156	0	00003	0	00000	DECTRE	HTR 0,0,3
01157	+0000000	77777			ADDMSK	OCT 000000077777
01160	+0000000	700000			TAGMSK	OCT 000000700000
01161	+0777770	000000			DECMSK	OCT 077777000000
01162	+3777777	777777			MSK35	OCT 377777777777
01163	0	70000	1	77633	ADTABL	CPY TABLE,1
01164	0	00000	0	75433	ADTIFG	HTR TIFGOT
01165	0	70000	4	75435	ADTRAD	CPY TRADT,4
01166	0	00000	0	00060	CPTRAD	HTR COPYAA
01167	0	00000	0	01063	CHNONX	HTR INFORM
01170	0	00000	0	00000	ALFA	
01171	0	00000	0	00325	TW13	HTR 213
01172	0	00000	0	00000	TRADNB	
01173	0	00000	0	00000	ERNBR	
01174	0	00000	0	00000	IDENT	
01175	0	00000	0	00000	WDCONT	
01176	0	00000	0	00000	NAME	
01177	0	00000	0	00000	ERAS	
01200	0	00000	0	00000	XERAS	
01201	0	00000	0	00000	BST	
01202	0	00000	0	00000	BSTA	
01203	0	00000	0	00000	DOTAG	

STORE NUMBER OF TIMES WORD COUNT WRONG  
DITTO IDENTIFICATION

01204	0 00000 0 00000	DOBETA	
01205	0 76100 0 00000	NOP	NOP
01206	0 00000 0 00000	FRETNB	
01207	000000000031	BCD	100000I
01210	000000000042	BCD	100000K
01211	000000000041	BCD	100000J
01212	000000000043	BCD	100000L
01213	000000000044	BCD	100000M
01214	000000000045	BCD	100000N
01215	0 00000 0 00006	IJK	HTR 6*0*0
01216	000000000020	BCD	100000+
01217	+000000000014	OCT	000000000014
01220	000000000040	BCD	100000-
01221	000000000061	BCD	100000/
01222	000000000053	BCD	100000\$
01223	000000000074	BCD	100000(
01224	000000000034	BCD	100000)
01225	000000000013	BCD	100000=
01226	000000000073	BCD	100000,
01227	000000000033	BCD	100000.
01230	000000000054	BCD	100000*
01231	0 00006 0 00013	SYMBL	HTR 11,0*6
01232	0 00000 0 00076	AFTRSZ	HTR IDENTIFY
01233	+000000000013	OCT	000000000013
01234	0 00000 0 00155		HTR SUBARG
01235	+000000000014	OCT	000000000014
01236	0 00000 0 00167		HTR UPPER
01237	+000000000000	OCT	000000000000
01240	0 00000 0 00202		HTR TEIFNO
01241	+000000000002	OCT	000000000002
01242	0 00000 0 00220		HTR TIFGO
01243	+000000000003	OCT	000000000003
01244	0 00000 0 00232		HTR TRAD
01245	+000000000001	OCT	000000000001
01246	0 00000 0 00604		HTR TDO
01247	+000000000007	OCT	000000000007
01250	0 00000 0 00732		HTR FRET
01251	+000000000010	OCT	000000000010
01252	0 00000 0 00765		HTR EQUIV
01253	0 00000 0 00020	TAPTAB	HTR 16
01254	2 00001 1 01255	PTCH	TIX SZW,1,1
01255	-0 75400 1 00000	SZW	PXD 0,1
01256	0 77100 0 00022		ARS 18
01257	0 02000 0 00063		TRA SUBWDS
01260	0 50000 0 01163	PATIF	CLA ADTABL
01261	0 60100 0 00056		STO COPY
01262	0 02000 0 00122		TRA NOTIFG
01263	0 76200 0 00222	SPACE2	RTB 2
01264	0 76200 0 00222		RTB 2
01265	0 76600 0 00333		IOD
01266	-0 76000 0 00012		RTT
01267	0 76100 0 00000		NOP
01270	0 02000 0 00004		TRA 4
01271	0 10000 0 00577	PAQADD	TZE NXTALF

OTHER MINUS SIGN

SIZ TABLE HAS CHECK SUM ENTRY NOT  
NOT INCLUDED IN WORD COUNT

01272	0	40000	0	01153		ADD	ADDONE
01273	0	02000	0	00562		TRA	ADDQ
01274	-0	63400	2	01301	PATS2	SXD	PATERA,2
01275	0	53400	2	01152		LXA	IR4,2
01276	0	02000	0	01051		TRA	CASH
01277	-0	53400	2	01301	PATRE2	LXD	PATERA,2
01300	0	02000	4	00001		TRA	1,4
01301	0	00000	0	00000	PATERA		
				00000		END	

A

1  
1

REM BLOCK ONE OF SECTION TWO.

BLOCK ONE OF SECTION TWO.

MASTER RECORD CARD = FN027

BLOCK ONE OF SECTION TWO PERFORMS THE  
PRELIMINARY DO NEST STRUCTURE ANALYSIS  
REQUIRED FOR THE SUCCEEDING BLOCKS. IT AXSIGNS  
LEVEL NUMBERS AND THE POSSIBILITY OF CARRY.  
TRANSFERS OUT OF THE RANGE OF DOS ARE NOTED AND ENTERED  
INTO TABLE TRALEV. IF THERE IS A VARIABLE  
PARAMETER OF A DO ITS HIGHEST LEVEL OF DEFINITION  
IS ASSIGNED.  
FINALLY, A SEARCH IS MADE TO DETERMINE  
WHETHER A DO INDEX COUNTER IS  
NECESSARY TO KEEP CURRENT THE VALUES  
OF THE DO INDEX.

00031 ORG 25  
00031 DOTAG BSS 1  
00032 BSS 1349  
02537 DOTAGZ BSS 1  
02540 TIFGO BSS 1  
02541 BSS 599  
03670 TIFZ BSS 1  
03671 TRAD BSS 1  
03672 BSS 249  
04263 TRADZ BSS 1  
04264 TRALEV BSS 1  
04265 BSS 599  
05414 TLTZ BSS 1  
02540 ORG 1376  
02540 FORVAL BSS 1  
02541 BSS 999  
04510 4VALZ BSS 1  
02540 ORG 1376  
02540 FORVAR BSS 1  
02541 BSS 1499  
05474 4VARZ BSS 1  
00734 ORG 476  
00734 FORTAG BSS 1  
00735 BSS 1499  
03670 FORTZ BSS 1

PROGRAM C ONSTANTS

05474 ORG 2876  
05474 0 00000 0 00000 L(0) 0,0,0  
05475 0 00001 0 00000 L(1) 0,0,1  
05476 0 00002 0 00000 L(2) 0,0,2  
05477 0 00003 0 00000 L(3) 0,0,3  
05500 0 00004 0 00000 L(4) 0,0,4  
05501 0 00005 0 00000 L(5) 0,0,5  
05502 0 00006 0 00000 L(6) 0,0,6  
05503 0 00011 0 00000 L(9) 0,0,9  
05504 0 01130 0 00000 L(600) 0,0,600  
05505 0 01750 0 00000 L(1000) 0,0,1000  
05506 0 02506 0 00000 L(1350) 0,0,1350  
05507 0 02734 0 00000 L(1500) 0,0,1500

F2100000  
F2100001  
F2100002  
F2100003  
F2100004  
F2100005  
F2100006  
F2100007  
F2100008  
F2100009  
F2100010  
F2100011  
F2100012  
F2100015  
F2100017  
F2100020  
F2100030  
F2100040  
F2100050  
F2100060  
F2100070  
F2100080  
F2100090  
F2100100  
F2100110  
F2100120  
F2100130  
F2100140  
F2100150  
F2100160  
F2100170  
F2100180  
F2100190  
F2100200  
F2100210  
F2100220  
F2100230  
F2100240  
F2100250  
F2100260  
F2100270  
F2100280  
F2100290  
F2100300  
F2100310  
F2100320  
F2100330  
F2100340  
F2100350  
F2100360  
F2100370  
F2100380

05510 -0 00000 0 00000 LIMZ) MZE  
 05511 +200000000000 BITONE OCT 200000000000  
 05512 +100000000000 BITTWO OCT 100000000000  
 05513 +077777077777 DECADD OCT 77777077777  
 05514 +077777000000 DECMSK OCT 77777000000  
 05515 +000000700000 TAGMSK OCT 700000  
 05516 +000000077777 ADDMSK OCT 77777  
 05517 -377777477777 NCMSK OCT -377777477777  
 05520 +000000100000 CR1 OCT 100000  
 05521 +000000200000 CR2 OCT 200000

BEGIN BLO CK ONE.

05522 0 77200 0 00224 TAP00 REW 148  
 05523 0 77200 0 00223 REW 147  
 05524 -0 76000 0 00012 RTT  
 05525 0 76100 0 00000 NOP  
 05526 0 76400 0 00222 BST TTAPE  
 05527 -0 53400 1 05503 LXD L(9),1  
 05530 0 76400 0 00222 TAP10 BST TTAPE  
 05531 2 00001 1 05530 TIX TAP10,1,1  
 05532 0 76000 0 00140 PSE 96  
 05533 0 76000 0 00142 PSE 98  
 05534 -0 53400 2 05476 LXD L(2),2  
 05535 0 50000 0 07153 CLA TIFAD  
 05536 0 07400 4 07060 TSX RTAPE,4  
 05537 -0 63400 1 02537 SXD TIFGO-1,1  
 05540 -0 53400 2 05477 LXD L(3),2  
 05541 0 50000 0 07154 CLA TRADAD  
 05542 0 07400 4 07060 TSX RTAPE,4  
 05543 -0 63400 1 03670 SXD TRAD-1,1  
 05544 -0 53400 2 05475 LXD L(1),2  
 05545 0 50000 0 07151 CLA DOAD  
 05546 0 07400 4 07060 TSX RTAPE,4  
 05547 -0 63400 1 00030 SXD DOTAG-1,1  
 05550 -3 02505 1 05553 TXL MR00,1,1349  
 05551 0 76000 0 00143 PSE 99  
 05552 0 02000 0 06567 TRA TS4VAL

MR00 COMPUTES LEVEL, X, CARRY BITS.

05553 -0 53400 1 00030 MR00 LXD DOTAG-1,1  
 05554 -0 63400 1 05630 SXD MR70,1  
 05555 -0 53400 1 05506 LXD L(1350,1  
 05556 0 50000 0 05475 MR05 CLA L(1)  
 05557 -0 73400 2 00000 MR10 PDX 0,2  
 05560 0 60100 1 02544 STO DOTAGZ+5,1  
 05561 0 50000 1 02537 CLA DOTAGZ,1  
 05562 -0 63400 4 05567 SXD MR14,4  
 05563 0 73400 4 00000 PAX 0,4  
 05564 0 62200 0 05565 STD MR12  
 05565 3 00000 4 05570 MR12 TXH MR15,4  
 05566 0 02000 0 07303 TRA ERBETA  
 05567 0 00000 0 00000 MR14 HTR  
 05570 -0 53400 4 05567 MR15 LXD MR14,4  
 05571 -0 32000 0 05515 ANA TAGMSK  
 05572 0 10000 0 05576 TZE MR20  
 05573 0 50000 0 05512 CLA BITTWO

POSITION TAPE TWO  
 FOR READING IN TAPE  
 TABLES

ALL LIGHTS OFF  
 TRALEV LIGHT 98 ON  
 READ  
 IN  
 TIEFGO  
 SAVE NEXT UNUSED INDEX  
 READ  
 IN  
 TRAD  
 SAVE NEXT UNUSED INDEX  
 READ  
 IN  
 TDO WITH DOTAG FORMAT  
 SAVE NEXT UNUSED INDEX  
 TEST FOR EMPTY DOTAG  
 DOTAG EMPTY

BETA LESS THAN OR EQUAL TO ALPHA

IF ZERO( TRA TO MR20)  
 IF NOT ZERO( PUT BIT  
 IN L WORD FOR X NOT

F2100390  
 F2100400  
 F2100410  
 F2100420  
 F2100430  
 F2100440  
 F2100450  
 F2100460  
 F2100470  
 F2100480  
 F2100490  
 F2100500  
 F2100510  
 F2100520  
 F2100530  
 F2100540  
 F2100550  
 F2100560  
 F2100570  
 F2100580  
 F2100590  
 F2100600  
 F2100610  
 F2100620  
 F2100630  
 F2100640  
 F2100650  
 F2100660  
 F2100670  
 F2100680  
 F2100690  
 F2100700  
 F2100710  
 F2100720  
 F2100730  
 F2100740  
 F2100750  
 F2100760  
 F2100770  
 F2100780  
 F2100790  
 F2100800  
 F2100810  
 F2100820  
 F2100830  
 F2100840  
 F2100850  
 F2100860  
 F2100870  
 F2100880  
 F2100890  
 F2100900  
 F2100910  
 F2100920

05574	-0	60200	1	02544	ORS DOTAGZ+5,1
05575	0	02000	0	05625	TRA MR60
05576	0	50000	1	02542	CLA DOTAGZ+3,1
05577	0	40200	1	02541	SUB DOTAGZ+2,1
05600	0	40000	1	02543	ADD DOTAGZ+4,1
05601	0	76500	0	00043	LRS 35
05602	0	22000	1	02543	DVH DOTAGZ+4,1
05603	0	20000	1	02543	MPY DOTAGZ+4,1
05604	0	76300	0	00043	LLS 35
05605	0	62100	1	02544	STA DOTAGZ+5,1
05606	-3	00001	2	05625	TXL MR60,2,1
05607	0	50000	4	02537	CLA DOTAGZ,4
05610	0	77100	0	00017	ARS 15
05611	0	76000	0	00001	LBT
05612	0	02000	0	05614	TRA MR30
05613	0	02000	0	05625	TRA MR60
05614	0	50000	4	02537	CLA DOTAGZ,4
05615	-0	32000	0	05513	ANA DECADD
05616	0	40000	0	05475	ADD L(1)
05617	0	40200	1	02537	SUB DOTAGZ,1
05620	-0	10000	0	05623	TNZ MR40
05621	0	50000	0	05520	CLA CR1
05622	0	02000	0	05624	TRA MR50
05623	0	50000	0	05521	CLA CR2
05624	-0	60200	1	02544	ORS DOTAGZ+5,1
05625	-0	75400	1	00000	PXD 0,1
05626	-0	73400	4	00000	PDX 0,4
05627	1	77767	1	05630	TXI MR70,1,-9
05630	-3	00000	1	07316	TXL ERTST,1,0
05631	0	50000	1	02537	CLA DOTAGZ,1
05632	-0	32000	0	05516	ANA ADDMSK
05633	0	60100	0	05660	STO MRES
05634	0	50000	4	02537	CLA DOTAGZ,4
05635	-0	32000	0	05516	ANA ADDMSK
05636	0	60100	0	05661	STO MRES1
05637	0	40200	0	05660	SUB MRES
05640	-0	12000	0	05645	TMI MR80
05641	0	50000	4	02544	CLA DOTAGZ+5,4
05642	-0	32000	0	05514	ANA DECMSK
05643	0	40000	0	05475	ADD L(1)
05644	0	02000	0	05557	TRA MR10
05645	0	50000	1	02537	CLA DOTAGZ,1
05646	-0	32000	0	05514	ANA DECMSK
05647	0	77100	0	00022	ARS 18
05650	0	34000	0	05661	CAS MRES1
05651	0	02000	0	05654	TRA MR85
05652	0	02000	0	07263	TRA ERLIST
05653	0	02000	0	07263	TRA ERLIST
05654	0	50000	4	02544	CLA DOTAGZ+5,4
05655	-0	73400	2	00000	PDX 0,2
05656	-3	00001	2	05556	TXL MR05,2,1
05657	1	00011	4	05634	TXI MR75,4,9
05660	0	00000	0	00000	MRES HTR
05661	0	00000	0	00000	MRES1 HTR

COMPUTABLE AND GO TO  
END.  
COMPUTE X AND STORE IN  
L WORD

IF L IS ONE( SKIP CARRY TEST)  
OBTAIN NEXT BACK SUBNEST  
DO( FIRST WORD. IN SPECT TAG  
FOR VARIABLE N3) IF NOT  
0) VARIABLE( CONTINUE WITH MR30,  
1) OTHERWISE GO TO END.  
OBTAIN FIRST WORD OF NEXT  
BACK SUBNEST DO, REMOVE  
TAG, AND ADD ONE TO ALPHA.  
SUB FIRST WORD CURRENT DO  
(TAG IS ZERO). IF RESULT IS  
ZERO, CARRY IS TYPE ONE,  
IF NOT ZERO, CARRY IS TYPE  
TWO. INDICATE TYPE IN  
L WORD OF CURRENT DO.  
MAKE CURRENT DO NEXT BACK  
SUBNEST DO.  
TAKE NEXT DO IN DOTAG.  
NO MORE DOS, EXIT TO TEST IF ERRORS  
OBTAIN FIRST WORD NEW DO.  
OBTAIN BETA  
AND SAVE  
OBTAIN BETA OF XRC DO,  
AND SUBTRACT NEW BETA.  
  
IF NOT NEGATIVE, XRC DO  
CONTAINS NEW DO. OTHERWISE, TRA.  
XRC DO CONTAINS NEW DO.  
OBTAIN LEVEL OF XRC DO,  
ADD ONE, STORE IN L.  
GO TO MR10

ALPHA(XRA) GREATER THAN BETA(XRC)  
EQUALITY  
LESS THAN

NEWDO. IF XRL DO IS OF  
LEVEL ONE, START NEW NEST  
BY TRA TO MR05. ELSE TRA MR75.  
ES

F2100930  
F2100940  
F2100950  
F2100960  
F2100970  
F2100980  
F2100990  
F2101000  
F2101010  
F2101020  
F2101030  
F2101040  
F2101050  
F2101060  
F2101070  
F2101080  
F2101090  
F2101100  
F2101110  
F2101120  
F2101130  
F2101140  
F2101150  
F2101160  
F2101170  
F2101180  
F2101190  
F2101200  
F2101211  
F2101220  
F2101230  
F2101240  
F2101250  
F2101260  
F2101270  
F2101280  
F2101290  
F2101300  
F2101310  
F2101320  
F2101330  
F2101340  
F2101350  
F2101360  
F2101370  
F2101380  
F2101391  
F2101401  
F2101410  
F2101420  
F2101430  
F2101440  
F2101450  
F2101460

				FLOW, TRANSFER ANALYSIS.			
	05662	-0	53400	4	02537	FLOW	LXD TIFGO-1,4
	05663	3	01127	4	06307		TXH SV00,4,599
	05664	-0	53400	1	00030		LXD DOTAG-1,1
	05665	-0	63400	1	05703		SXD FL030,1
	05666	-0	63400	4	05723		SXD FL060,4
	05667	-0	63400	1	06240		SXD ADL60,1
	05670	-0	63400	1	06113		SXD INC40,1
	05671	-0	63400	1	06166		SXD RNC70,1
	05672	0	53400	1	06274		LXA TLT50,1
	05673	-0	63400	1	06274		SXD TLT50,1
	05674	-0	53400	4	05504	FL010	LXD L(600),4
	05675	-0	63400	4	06306		SXD TIFX,4
	05676	-0	53400	1	05506		LXD L(1350,1
	05677	0	50000	1	02544	FL015	CLA DOTAGZ+5,1
	05700	-0	73400	2	00000		PDX 0,2
	05701	-3	00001	2	05705		TXL FL040,2,1
	05702	1	77767	1	05703	FL020	TXI FL030,1,-9
D	05703	3	00000	1	05677	FL030	TXH FL015,1
	05704	0	02000	0	05775		TRA FLOEND
	05705	-0	63400	1	06275	FL040	SXD BNX,1
	05706	0	50000	1	02537		CLA DOTAGZ,1
	05707	0	73400	2	00000		PAX 0,2
	05710	-0	32000	0	05514		ANA DECMSK
	05711	0	60100	0	06276		STO BNA
	05712	-0	75400	2	00000		PXD 0,2
	05713	0	60100	0	06277		STO ENA
	05714	-0	53400	4	06306		LXD TIFX,4
	05715	0	50000	4	03670	FL050	CLA TIFZ,4
	05716	-0	32000	0	05514		ANA DECMSK
	05717	0	34000	0	06276		CAS BNA
	05720	0	02000	0	05727		TRA FLO70
	05721	0	07400	4	00004		TSX DIAG,4 BNA, MAY BE IN NEST.
	05722	1	77776	4	05723	FL055	TXI FL060,4,-2
D	05723	3	00000	4	05715	FL060	TXH FLO50,4
	05724	0	02000	0	05775		TRA FLOEND
	05725	-0	53400	1	06275	FL065	LXD BNX,1
	05726	0	02000	0	05702		TRA FLO20
	05727	-0	63400	4	06306	FL070	SXD TIFX,4
	05730	0	34000	0	06277		CAS ENA
	05731	0	02000	0	05725		TRA FLO65
	05732	0	76100	0	00000		NOP
	05733	0	60100	0	06300		STO G
	05734	0	50000	4	03670		CLA TIFZ,4
	05735	-0	12000	0	05743		TMI FLO75
	05736	0	73400	2	00000		PAX 0,2
	05737	-3	00005	2	05743		TXL FLO75,2,5
	05740	-3	00006	2	05722		TXL FLO55,2,6
	05741	-3	00007	2	05743		TXL FLO75,2,7
	05742	0	07400	4	00004		TSX DIAG,4 SEVEN.
	05743	0	50000	0	06300	FL075	CLA G
	05744	-0	53400	1	06275		LXD BNX,1
	05745	0	07400	4	06216		TSX ADLOC,4
	05746	0	50000	0	05511		CLA BITONE

  

TEST FOR EMPTY TIFGO	F2101470
	F2101480
	F2101490
INITIALIZE	F2101500
TEST	F2101510
INSTRUCTIONS	F2101520
	F2101530
	F2101540
	F2101550
INITIALIZE TRALEV	F2101560
INDEX VALUE	F2101570
INITIALIZE	F2101580
CURRENT TIFGO INDEX	F2101590
INITIALIZE XRA, DOTAG INDEX	F2101600
OBTAIN LEVEL OF DO	F2101610
AND	F2101620
TRA IF LEVEL ONE. IF NOT	F2101630
LEVEL ONE, FIND NEXT	F2101640
LEVEL ONE, IF ANY.	F2101650
	F2101660
SAVE BEGINNING OF NEST INDEX.	F2101670
INITIALIZE	F2101680
BEGINNING OF NEST	F2101690
AND	F2101700
END OF NEST	F2101710
ADDRESSES	F2101720
	F2101730
OBTAIN CURRENT TIFGO INDEX	F2101740
AND SEARCH FOR TIFGO	F2101750
ENTRY IN NEST.	F2101760
COMPARE WITH BNA	F2101770
GREATER THAN OR EQUAL TO	F2101780
ERROR. GO TO DIAGNOSTIC.	F2101795
LESS THAN BNA, GO BACK	F2101800
FOR NEXT TIFGO ENTRY,	F2101810
IF ANY. IF NONE, EXIT	F2101820
	F2101830
	F2101840
SAVE CURRENT TIFGO INDEX	F2101850
COMPARE G AND ENA	F2101860
G GREATER, GO BACK FOR NEXT NEST.	F2101870
G EQUAL TO	F2101880
OR LESS THAN G, SAVE G.	F2101890
TEST FOR THREE ADDRESS IF.	F2101900
USE ADDRESS TO DETERMINE	F2101910
WHETHER OR NOT THIS IS AN	F2101920
ASSIGN FORMULA. IF IT IS,	F2101930
IGNORE, TAKE NEXT TIFGO ENTRY	F2101940
TEST FOR ADD. GREATER THAN	F2101950
ERROR. GO TO DIAGNOSTIC.	F2101965
OBTAIN G	F2101970
OBTAIN CURRENT NEST INDEX	F2101980
OBTAIN XDG AND LDG	F2101990
PUT BIT IN DOTAG FOR TRA	F2102000



05747	-0	60200	1	02545	ORS	DOTAGZ+6,1
05750	-0	75400	1	00000	PXD	0,1
05751	0	60100	0	06301	STO	XDG
05752	-0	75400	2	00000	PXD	0,2
05753	0	60100	0	06302	STO	LDG
05754	0	50200	0	06300	CLS	G
05755	0	07400	4	06253	TSX	TLT00,4
05756	-0	53400	4	06306	LXD	TIFX,4
05757	0	50000	4	03670	CLA	TIFZ,4
05760	-0	12000	0	06001	TMI	3ADIF
05761	0	73400	2	00000	PAX	0,2
05762	0	02000	2	05772	TRA	FL080+8,2
05763	0	07400	4	00004	TSX	DIAG,4 7, ROYS TRA.
05764	0	07400	4	00004	TSX	DIAG,4 6, ASSIGN FORMULA
05765	0	02000	0	06005	TRA	2ADIF
05766	0	02000	0	06005	TRA	2ADIF
05767	0	02000	0	06005	TRA	2ADIF
05770	0	02000	0	06016	TRA	GOTOVN
05771	0	02000	0	06016	TRA	GOTOVN
05772	0	02000	0	06011	TRA	GOTOK
05773	-0	53400	4	06306	LXD	TIFX,4
05774	1	77776	4	05723	TXI	FL060,4,-2
05775	-0	53400	1	06274	LXD	TLT50,1
05776	3	01127	1	06307	TXH	SV00,1,599
05777	0	07400	4	06261	TSX	TLT20,4
06000	0	02000	0	06307	TRA	SV00
CONTROL ROUTINES						
06001	-0	32000	0	05516	3ADIF	ANA ADDMSK
06002	0	76700	0	00022	ALS	18
06003	0	07400	4	06033	TSX	FA000,4
06004	-0	53400	4	06306	LXD	TIFX,4
06005	0	50000	4	03671	2ADIF	CLA TIFZ+1,4
06006	-0	32000	0	05514	ANA	DECMASK
06007	0	07400	4	06033	TSX	FA000,4
06010	-0	53400	4	06306	LXD	TIFX,4
06011	0	50000	4	03671	GOTOK	CLA TIFZ+1,4
06012	-0	32000	0	05516	ANA	ADDMSK
06013	0	76700	0	00022	ALS	18
06014	0	07400	4	06033	TSX	FA000,4
06015	0	02000	0	05773	TRA	FL090
06016	0	50000	4	03671	GOTOVN	CLA TIFZ+1,4
06017	0	73400	4	00000	PAX	0,4
06020	-0	63400	4	06031	SXD	GTV20,4
06021	-0	73400	4	00000	PDX	0,4
06022	0	02000	0	06031	TRA	GTV20
06023	0	50000	4	04263	GTV10	CLA TRADZ,4
06024	0	76700	0	00022	ALS	18
06025	-0	63400	4	06032	SXD	GTV30,4
06026	0	07400	4	06033	TSX	FA000,4
06027	-0	53400	4	06032	LXD	GTV30,4
06030	1	77777	4	06031	TXI	GTV20,4,-1
06031	3	00000	4	06023	GTV20	TXH GTV10,4
06032	-3	00000	0	05773	GTV30	TXL FL090,0

ANALYSIS OF ADDRESS

IN IMMEDIATE RANGE.

SAVE

XDG

AND

LDG

LIST MINUS G

IN TRALEV BUFFER.

OBTAIN FIRST WORD OF

TIFGO ENTRY

TRA IF 3ADIF

PUT ADDRESS IN XRB

INDEXED TRA.

ERROR. GO TO DIAGNOSTIC.

ERROR. GO TO DIAGNOSTIC.

5, 2 ADDRESS TYPE

4, 2 ADIF

3, 2ADIF

2 VECTOR TYPE TRA

1 GO TO N (ASSIGN)

0 GO TO CONSTANT

GO BACK FOR NEXT

TIFGO ENTRY.

TEST IF ANY TRALEV ENTRIES

IF SO, GO TO WRITE ROUTINE

THE FOLLOWING ROUTINES

ARRANGE TO PROCESS ALL OF

THE ADDRESSES ASSOCIATED

WITH THE TIFGO ENTRY,

ONE AT A TIME.

WHEN ALL ADDRESSES

ARE PROCESSED,

CONTROL IS RETURNED TO

FL090 FOR NEXT

TIFGO ENTRY.

FOR GOTOV TRANSFERS,

USE WORD TWO

FOR INDEXING

VALUES NECESSARY

TO GET ADDRESSES

FROM TABLE TRAD.

FOR GOTON (ASSIGN) TYPE

TRANSFERS, ALL ADDRESSES

MUST BE PROCESSED EVEN

THOUGH THEY ARE ON SAME

LEVEL BECAUSE OF

CARRY RESTRICTIONS.

F2102010

F2102020

F2102030

F2102040

F2102050

F2102060

F2102070

F2102080

F2102090

F2102100

F2102110

F2102120

F2102135

F2102145

F2102150

F2102160

F2102170

F2102180

F2102190

F2102200

F2102210

F2102220

F2102230

F2102240

F2102250

F2102260

F2102270

F2102280

F2102290

F2102300

F2102310

F2102320

F2102330

F2102340

F2102350

F2102360

F2102370

F2102380

F2102390

F2102400

F2102410

F2102420

F2102430

F2102440

F2102450

F2102460

F2102470

F2102480

F2102490

F2102500

F2102510

F2102520

F2102530

F2102540

06033	-0	63400	4	06076	FA000	SXD RS60,4	SAVE TSX SET	F2102550
06034	0	60100	0	06303		STO A	SAVE ADDRESS	F2102560
06035	-0	53400	1	06275		LXD BNx,1	OBTAIN	F2102570
06036	0	07400	4	06216		TSX ADLOC,4	INDEX OF DO CONTAINING	F2102580
06037	-0	75400	1	00000		PXD 0,1	ADDRESS AND LEVEL OF	F2102590
06040	0	60100	0	06304		STO XDA	THAT DO.	F2102600
06041	-0	75400	2	00000		PXD 0,2	SAVE IN	F2102610
06042	0	60100	0	06305		STO LDA	XDA AND LDA.	F2102620
06043	-3	00024	2	06045		TXL FA010,2,20	TEST LEVEL	F2102630
06044	0	07400	4	00004		TSX DIAG,4	LEV. ADD OF TRA EXCEEDS 20. ERROR. GO TO DIAGNOSTIC.	F2102645
06045	0	77100	0	00022	FA010	ARS 18		F2102650
06046	0	62100	0	06051		STA FA020	TRANSFER	F2102660
06047	-0	50000	0	05510		CAL L(MZ)	LEVEL IN	F2102670
06050	-0	53400	1	06301		LXD XDG,1	XDG DO.	F2102680
06051	0	77100	0	00000	FA020	ARS		F2102690
06052	-0	60200	1	02546		ORS DOTAGZ+7,1		F2102700
06053	0	50000	0	06305		CLA LDA	LIST	F2102710
06054	0	77100	0	00022		ARS 18	ADDRESS AND LEVEL	F2102720
06055	0	40000	0	06303		ADD A	IN	F2102730
06056	0	07400	4	06253		TSX TLT00,4	TLT. CONTINUE WITH RS00	F2102740
						TRANSFER BIT INSERTION IN	DO FORMULA	F2102750
06057	-0	53400	1	06301	RS00	LXD XDG,1	XRA CONTAINS XDG	F2102760
06060	-0	53400	2	06302		LXD LDG,2	XRB CONTAINS LDG	F2102770
06061	-0	75400	2	00000	RS10	PXD 0,2	IF G AND A IN SAME DO,	F2102780
06062	0	40200	0	06305		SUB LDA	EXIT. THIS ROUTINE INSERTS	F2102790
06063	0	10000	0	06077		TZE INC00	BIT MEANING THERE IS A JUMP	F2102800
06064	0	12000	0	06066		TPL RS20	OUT OF THE RANGE OF THIS DO.	F2102810
06065	0	07400	4	00004		TSX DIAG,4	JUMP INTO HIGHER LEVEL. ERROR. GO TO DIAGNOSTIC.	F2102825
06066	-0	50000	0	05510	RS20	CAL L(MZ)		F2102830
06067	-0	60200	1	02544		ORS DOTAGZ+5,1		F2102840
06070	-3	00001	2	06077		TXL INC00,2,1	FIND NEXT BACK SUBNEST	F2102850
06071	1	00011	1	06072	RS30	TXI RS40,1,9	DO FORMULA	F2102860
06072	0	50000	1	02544	RS40	CLA DOTAGZ+5,1	AND RETURN	F2102870
06073	0	62200	0	06074		STD RS50	TO TEST	F2102880
06074	-3	00000	2	06071	RS50	TXL RS30,2	LEVEL	F2102890
06075	-0	73400	2	00000		PDX 0,2	AT	F2102900
06076	-3	00000	0	06061	RS60	TXL RS10,0	RS10	F2102910
						INDEXING NO CARRY CONDITION		F2102920
06077	0	50000	0	06305	INC00	CLA LDA	EXIT IF	F2102930
06100	0	10000	0	06142		TZE RNC00	LDA IS ZERO.	F2102940
06101	0	50000	0	06300		CLA G	PLACE G ANDA	F2102950
06102	0	56000	0	06303		LDQ A	IN	F2102960
06103	0	04000	0	06107		TLQ INC20	INCX AND INCY SO THAT	F2102970
06104	0	60100	0	06140		STO INCX	INCX IS LESS THAN INCY.	F2102980
06105	-0	60000	0	06141		STQ INCY		F2102990
06106	0	02000	0	06111		TRA INC30		F2103000
06107	-0	60000	0	06140	INC20	STQ INCX		F2103010
06110	0	60100	0	06141		STO INCY		F2103020
06111	-0	53400	1	06304	INC30	LXD XDA,1	INITIALIZE XRA	F2103030
06112	1	77767	1	06113	INC35	TXI INC40,1,-9	FIND DO OF LEVEL LDA	F2103040
06113	-3	00000	1	06142	INC40	TXL RNC00,1	PLUS ONE.	F2103050
06114	0	50000	1	02544		CLA DOTAGZ+5,1		F2103060
06115	-0	32000	0	05514		ANA DECMK		F2103070
06116	0	40200	0	06305		SUB LDA		F2103080

	06117	0	40200	0	05475		SUB L(1)
	06120	0	10000	0	06123		TZE INC50
	06121	0	12000	0	06112		TPL INC35
	06122	0	02000	0	06142		TRA RNC00
	06123	0	50000	1	02537	INC50	CLA DOTAGZ,1
	06124	0	73400	2	00000		PAX 0,2
	06125	-0	75400	2	00000		PXD 0,2
	06126	0	34000	0	06141		CAS INCY
	06127	0	02000	0	06142		TRA RNC00
	06130	0	02000	0	06142		TRA RNC00
	06131	0	34000	0	06140		CAS INCX
	06132	0	02000	0	06135		TRA INC60
	06133	0	02000	0	06135		TRA INC60
	06134	0	02000	0	06112		TRA INC35
	06135	-0	50000	0	05517	INC60	CAL NCMSK
	06136	0	32000	1	02544		ANS DOTAGZ+5,1
	06137	0	02000	0	06112		TRA INC35
A	06140	0	00000	0	00000	INCX	HTR
A	06141	0	00000	0	00000	INCY	HTR
							RESET NO CARRY CONDITION.
	06142	0	50000	0	06305	RNC00	CLA LDA
	06143	0	10000	0	06214		TZE RNC95
	06144	0	50000	0	06302		CLA LDG
	06145	0	40200	0	06305		SUB LDA
	06146	0	10000	0	06214		TZE RNC95
	06147	-0	73400	4	00000		PDX 0,4
	06150	-0	53400	1	06301		LXD XDG,1
	06151	0	50000	0	06302		CLA LDG
	06152	-0	73400	2	00000		PDX 0,2
	06153	1	00001	2	06161		TXI RNC50,2,1
	06154	1	00011	1	06155	RNC20	TXI RNC30,1,9
	06155	3	02506	1	06214	RNC30	TXH RNC95,1,1350
	06156	0	50000	1	02544		CLA DOTAGZ+5,1
	06157	0	62200	0	06160		STD RNC40
D	06160	-3	00000	2	06154	RNC40	TXL RNC20,2
	06161	-0	63400	1	06206	RNC50	SXD RNC75,1
	06162	0	62200	0	06212		STD RNC85
	06163	-0	75400	2	00000		PXD 0,2
	06164	0	60100	0	06213		STO RNC90
	06165	1	77767	1	06166	RNC60	TXI RNC70,1,-9
D	06166	-3	00000	1	06207	RNC70	TXL RNC80,1
	06167	0	50000	1	02537		CLA DOTAGZ,1
	06170	-0	32000	0	05516		ANA ADDMSK
	06171	0	76700	0	00022		ALS 18
	06172	0	40200	0	06300		SUB G
	06173	0	12000	0	06207		TPL RNC80
	06174	0	50000	1	02544		CLA DOTAGZ+5,1
	06175	-0	32000	0	05514		ANA DECMASK
	06176	0	40200	0	06213		SUB RNC90
	06177	-0	10000	0	06165		TNZ RNC60
	06200	0	50000	1	02545		CLA DOTAGZ+6,1
	06201	-0	32000	0	05514		ANA DECMASK
	06202	0	40200	0	06305		SUB LDA
	06203	0	12000	0	06165		TPL RNC60

DO OF LEVEL LDA PLUS ONE FOUND.  
LEVEL TO HIGH, GO BACK.  
LEVEL TO LOW, DA EXHAUSTED.  
OBTAIN BETA OF  
THIS DO IN DECREMENT.

COMPARE WITY INCY.  
GREATER THAN OR EQUAL TO  
GREATEST OF G, A, EXIT.  
LESS THAN INCY, COMPARE  
WITH INCX. GREATER THAN  
OR EQUAL TO INCX, GO TO INC60.  
LESS THAN INCX, GET NEXT DO.  
AND OUT CARRY BITS.

GO BACK FOR NEXT DO.  
ES.  
ES.

NO CARRY TRANSFER LEVEL  
EXIT IF LDA IS ZERO

EXIT IF  
LDA EQUALS  
LDG  
INITIALIZE COUNTER XR6  
INITIALIZE XRA  
AND  
XRB. C(ACC) LDG.  
C(XRB) LDG PLUS ONE.  
FIND NEXT BACK  
SUBNESTDO.

SAVE XRA  
SAVE LEVEL OF THIS DO  
SAVE LEVEL OF NEXT INNER  
SUBNEST DO.  
TAKE NEXT DOWN DO IF ANY.

IF BETA  
OF THIS DO  
IS LESS  
THAN G,  
TEST LEVEL  
TO SEE IF  
THIS DO IS OF SAME  
LEVEL AS NEXT INNERMOST  
SUBNEST DO. IF NOT, GET NEXT DO.  
IF SO, MAKE NO CARRY  
TRANSFER LEVEL OF THIS  
DO EQUAL TO GREATER  
OF PREVIOUS VALUE

F2103090  
F2103100  
F2103110  
F2103120  
F2103130  
F2103140  
F2103150  
F2103160  
F2103170  
F2103180  
F2103190  
F2103200  
F2103210  
F2103220  
F2103230  
F2103240  
F2103250  
F2103260  
F2103270  
F2103280  
F2103290  
F2103300  
F2103310  
F2103320  
F2103330  
F2103340  
F2103350  
F2103360  
F2103370  
F2103380  
F2103390  
F2103400  
F2103410  
F2103420  
F2103430  
F2103440  
F2103450  
F2103460  
F2103470  
F2103480  
F2103490  
F2103500  
F2103510  
F2103520  
F2103530  
F2103540  
F2103550  
F2103560  
F2103570  
F2103580  
F2103590  
F2103600  
F2103610  
F2103620

	06204	0	50000	0	06305	CLA LDA	AND CURRENT LDA.	F2103630
	06205	0	62200	1	02545	STD DOTAGZ+6,1		F2103640
D	06206	-3	00000	0	06165 RNC75	TXL RNC60,0	GO BACK FOR NEXT TEST DO	F2103650
	06207	-0	53400	1	06206 RNC80	LXD RNC75,1	GO BACK FOR NEXT SUBNEST DO,	F2103660
	06210	-0	53400	2	06212	LXD RNC85,2	IF COUNTER PERMITS.	F2103670
	06211	2	00001	4	06154	TIX RNC20,4,1	OTHERWISE, EXIT.	F2103680
D	06212	-3	00000	0	06214 RNC85	TXL RNC95,0		F2103690
A	06213	0	00000	0	00000 RNC90	HTR	ES	F2103700
	06214	-0	53400	4	06076 RNC95	LXD RS60,4	GO BACK TO CONTROL ROUTINE	F2103710
	06215	0	02000	4	00001	TRA 1,4	FOR NEXT ADDRESS.	F2103720
						INDEX AND LEVEL OF ADDRESS		F2103730
	06216	-0	63400	4	06226 ADLOC	SXD ADL20,4	SAVE TSX SET	F2103740
	06217	-0	53400	4	05474	LXD L(0),4	INITIALIZE XRC,	F2103750
	06220	-0	63400	4	06227	SXD ADL30,4	AND DEC OF ADL30, PUT ADDRESS	F2103760
	06221	0	60100	0	06252	STO ADL90	IN ADL90, XRA CONTAINS BNX	F2103770
	06222	0	50000	1	02537 ADL10	CLA DOTAGZ,1	OBTAIN FIRST WORD.	F2103780
	06223	0	73400	2	00000	PAX 0,2	SAVE BETA	F2103790
	06224	-0	32000	0	05514	ANA DECM SK	GET ALPHA ALONE.	F2103800
	06225	0	34000	0	06252	CAS ADL90	COMPARE WITH ADDRESS. IF	F2103810
D	06226	-3	00000	0	06244 ADL20	TXL ADL70,0	ALPHA NOT LESS THAN ADD, THEN	F2103820
D	06227	-3	00000	0	06244 ADL30	TXL ADL70,0	ADD IN LAST CHOSEN DO.	F2103830
	06230	-0	75400	2	00000	PXD 0,2	IF ALPHA LESS THAN ADD,	F2103840
	06231	0	34000	0	06252	CAS ADL90	COMPARE WITH BETA.	F2103850
	06232	0	76100	0	00000	NOP	IF BETA IS NOT LESS THAN	F2103860
	06233	0	02000	0	06236	TRA ADL40	ADDRESS, THIS DO CONTAINS	F2103870
	06234	3	00000	4	06237	TXH ADL50,4,0	ADDRESS. EXIT IF OUT OF NEST	F2103880
	06235	0	02000	0	06244	TRA ADL70	TO ADL 70. OTHERWISE, GO TO 50	F2103890
	06236	-0	63400	1	06227 ADL40	SXD ADL30,1	IF DO IN THIS NEST, SXD.	F2103900
	06237	1	77767	1	06240 ADL50	TXI ADL60,1,-9	IN ANY CASE, TAKE NEXT DOWN	F2103910
D	06240	-3	00000	1	06244 ADL60	TXL ADL70,1	DO, IF ANY,	F2103920
	06241	0	50000	1	02544	CLA DOTAGZ+5,1	PUT LEVEL IN XRC.	F2103930
	06242	-0	73400	4	00000	PDX 0,4	AND GO BACK FOR TEST	F2103940
	06243	3	00001	4	06222	TXH ADL10,4,1	UNLESS NGW DO HAS LEVEL ONE.	F2103950
	06244	-0	53400	3	06227 ADL70	LXD ADL30,3	OBTAIN XDA IN XRA, XRB.	F2103960
	06245	-3	00000	1	06250	TXL ADL80,1,0	EXIT IF ZERO.	F2103970
	06246	0	50000	1	02544	CLA DOTAGZ+5,1	IF NOT ZERO, GET LDA IN	F2103980
	06247	-0	73400	2	00000	PDX 0,2	XRB, PUT	F2103990
	06250	-0	53400	4	06226 ADL80	LXD ADL20,4	TSX SET IN XRC	F2104000
	06251	0	02000	4	00001	TRA 1,4	AND RETURN.	F2104010
A	06252	0	00000	0	00000 ADL90	HTR		F2104020
						TRALEV LISTING		F2104030
	06253	-0	53400	1	06274 TLT00	LXD TLT50,1	OBTAIN CURRENT TRALEV	F2104040
	06254	0	60100	1	05414	STO TLT2,1	INDEX. STORE ENTRY.	F2104050
	06255	1	77777	1	06256	TXI TLT10,1,-1	IF TABLE NOW FULL, GO TO	F2104060
	06256	-0	63400	1	06274 TLT10	SXD TLT50,1	TAPE WRITING ROUTINE.	F2104070
	06257	-3	00000	1	06261	TXL TLT20,1,0	OTHERWISE, SAVE NEW INDEX	F2104080
	06260	0	02000	4	00001	TRA 1,4	AND RETURN.	F2104090
	06261	0	76600	0	00224 TLT20	WRS TLTAPE	SELECT TAPE TO WRITE AWAY	F2104100
	06262	-0	53400	1	06274	LXD TLT50,1	BUFFER. INITIALIZE XRA	F2104110
	06263	-0	63400	1	06272	SXD TLT40,1	AND TEST INSTR.	F2104120
	06264	-0	76000	0	00142	MSE 98	TURN OFF TRALEV TAPE EMPTY	F2104130
	06265	0	76100	0	00000	NOP	LIGHT	F2104140
	06266	0	53400	1	06274	LXA TLT50,1	RE-INITIALIZE INDEX QUANTITIES	F2104150
	06267	-0	63400	1	06274	SXD TLT50,1		F2104160

06270 0 70000 1 05414 TLT30 CPY TLTZ,1  
 06271 1 77777 1 06272 TXI TLT40,1,-1  
 06272 3 00000 1 06270 TLT40 TXH TLT30,1  
 06273 0 02000 4 00001 TRA 1,4  
 06274 0 00000 0 01130 TLT50 HTR 600

ES FORFLOW

06275 BNX BSS 1  
 06276 BNA BSS 1  
 06277 ENA BSS 1  
 06300 G BSS 1  
 06301 XDG BSS 1  
 06302 LDG BSS 1  
 06303 A BSS 1  
 06304 XDA BSS 1  
 06305 LDA BSS 1  
 06306 TIFX BSS 1

DO SYMBOL DEFINITION OF VARIABLE RANGES AND INCREMENTS.

06307 -0 53400 1 00030 SV00 LXN DOTAG-1,1  
 06310 -0 63400 1 06333 SXN SV80,1  
 06311 -0 63400 1 06340 SXN SV95,1  
 06312 -0 63400 1 06510 SXN TRA40,1  
 06313 -0 53400 1 05506 LXN L(1350,1  
 06314 -0 63400 1 06325 SXN SV44,1  
 06315 -0 63400 1 06345 SV10 SXN SV98,1  
 06316 0 50000 1 02537 SV20 CLA DOTAGZ,1  
 06317 -0 32000 0 05515 ANA TAGMSK  
 06320 0 10000 0 06337 TZE SV90  
 06321 -0 53400 4 06345 LXN SV98,4  
 06322 0 50000 4 02540 SV30 CLA DOTAGZ+1,4  
 06323 -0 53400 2 05477 LXN L(3),2  
 06324 0 34000 1 02543 SV40 CAS DOTAGZ+4,1  
 06325 -3 00000 0 06327 SV44 TXL SV50,0  
 06326 -3 00000 0 06346 SV48 TXL SF00,0  
 06327 1 00001 1 06330 SV50 TXI SV60,1,1  
 06330 2 00001 2 06324 SV60 TIX SV40,2,1  
 06331 -0 53400 1 06325 SV65 LXN SV44,1  
 06332 1 77767 4 06333 SV70 TXI SV80,4,-9  
 06333 -3 00000 4 06337 SV80 TXL SV90,4  
 06334 0 50000 4 02544 CLA DOTAGZ+5,4  
 06335 -0 73400 2 00000 PDX 0,2  
 06336 3 00001 2 06322 TXH SV30,2,1  
 06337 1 77767 1 06340 SV90 TXI SV95,1,-9  
 06340 -3 00000 1 06567 SV95 TXL TS4VAL,1  
 06341 -0 63400 1 06325 SXN SV44,1  
 06342 0 50000 1 02544 CLA DOTAGZ+5,1  
 06343 -0 73400 2 00000 PDX 0,2  
 06344 3 00001 2 06316 TXH SV20,2,1  
 06345 -3 00000 0 06315 SV98 TXL SV10,0  
 06346 -0 63400 1 06326 SF00 SXN SV48,1  
 06347 -0 63400 2 06356 SXN SF10,2  
 06350 -0 63400 4 06361 SXN SF15,4  
 06351 -0 75400 4 00000 PDX 0,4  
 06352 0 60100 0 06467 STO SFES1  
 06353 -0 53400 1 06325 LXN SV44,1

COPY BUFFER.

RETURN.  
 BUFFER SIZE

BEGINNING OF NEST INDEX  
 BEGINNING OF NEST ADDRESS  
 END OF NEST ADDRESS  
 GAMMA OF SOME TIFGO ENTRY  
 INDEX OF DO WITH G IN IMMED.  
 RANGE. LEVEL OF XDG.  
 AN ADDRESS TO WHICH G TRANSFERS.  
 INDEX OF DO WITH A IN IMMED.  
 RANGE. LEVEL OF XDA.  
 CURRENT TIFGO INDEX.

INITIALIZE XRA  
 SAVE CURRENT DO INDEX  
 SAVE NEST INDEX  
 OBTAIN FIRST WORD CURRENT  
 DO AND INSPECT TAG.  
 IF ZERO, GO TO INDEXING.  
 OTHERWISE, NEST INDEX IN XRC.  
 OBTAIN SYM OF XRC,  
 INITIALIZE XRB COUNTER  
 AND TEST FOR SYM EQUALS VAR.N.  
 CURRENT DO INDEX STORAGE.  
 INDEX STO. OF N IN CUR. DO.  
 TAKE NEXT N, COUNT  
 IN XRB AND GO BACK.  
 SYM NOT VAR.N., PUT CURRENT  
 DO INDEX IN XRA AND INDEX  
 XRC. IF TABLE ENDS, GO TO SU90.  
 OTHERWISE TEST FOR NEW NEST.  
 IF NOT NEW NEST, GO BACK TO  
 TEST SYM. OTHERWISE.  
 TAKE NEXT DOWN DO IF  
 POSSIBLE. OTHERWISE, EXIT  
 SAVE CURRENT DO INDEX.

INSPECT LEVEL.  
 IF NOT NEW NEST, TRA SV20  
 IF NEW NEST, SV10 (NEST INDEX STO.)  
 SAVE INDEX OF N IN CURRENT DO.  
 SAVE N COUNTER.  
 SAVE INDEX OF SYMBOL DO  
 IN FULL WORD.  
 OBTAIN INDEX OF CURRENT DO

F2104170  
 F2104180  
 F2104190  
 F2104200  
 F2104210  
 F2104220  
 F2104230  
 F2104240  
 F2104250  
 F2104260  
 F2104270  
 F2104280  
 F2104290  
 F2104300  
 F2104310  
 F2104320  
 F2104330  
 F2104340  
 F2104350  
 F2104360  
 F2104370  
 F2104380  
 F2104390  
 F2104400  
 F2104410  
 F2104420  
 F2104430  
 F2104440  
 F2104450  
 F2104460  
 F2104470  
 F2104480  
 F2104490  
 F2104500  
 F2104510  
 F2104520  
 F2104530  
 F2104540  
 F2104550  
 F2104560  
 F2104570  
 F2104580  
 F2104590  
 F2104600  
 F2104610  
 F2104620  
 F2104630  
 F2104640  
 F2104650  
 F2104660  
 F2104670  
 F2104680  
 F2104690  
 F2104700

	06354	-0	75400	1	00000		PXD 0,1
	06355	0	34000	0	06467		CAS SFES1
D	06356	-3	00000	0	06362	SF10	TXL SF20,0
	06357	0	02000	0	06424		TRA SF79
	06360	0	76000	0	00141		PSE 97
D	06361	-3	00000	0	06366	SF15	TXL SF30,0
	06362	-0	53400	4	06325	SF20	LXD SV44,4
	06363	-0	53400	1	06467		LXD SFES1,1
	06364	-0	76000	0	00141		MSE 97
	06365	0	76100	0	00000		NOP
	06366	-0	75400	4	00000	SF30	PXD 0,4
	06367	0	60100	0	06467		STO SFES1
	06370	0	50000	1	02544	SF35	CLA DOTAGZ+5,1
	06371	-0	73400	2	00000		PDX 0,2
	06372	3	00001	2	06374		TXH SF40,2,1
	06373	0	07400	4	00004		TSX DIAG,4 IS ONE
	06374	1	00011	1	06375	SF40	TXI SF50,1,9
	06375	-3	02506	1	06377	SF50	TXL SF60,1,1350
	06376	0	07400	4	00004		TSX DIAG,4 PASSED.
	06377	0	50000	1	02544	SF60	CLA DOTAGZ+5,1
	06400	0	62200	0	06401		STD SF70
D	06401	-3	00000	2	06374	SF70	TXL SF40,2
	06402	-0	75400	1	00000		PXD 0,1
	06403	0	34000	0	06467		CAS SFES1
	06404	0	02000	0	06407		TRA SF73
	06405	0	02000	0	06431		TRA SF80
	06406	0	02000	0	06370		TRA SF35
	06407	-0	63400	1	06422	SF73	SXD SF76,1
	06410	-0	53400	1	06361	SF74	LXD SF15,1
	06411	0	07400	4	06470		TSX TRA00,4
	06412	0	10000	0	06465		TZE SFEND
	06413	0	60100	0	06423		STO SF78
	06414	-0	53400	1	06422		LXD SF76,1
	06415	0	50000	1	02544		CLA DOTAGZ+5,1
	06416	-0	32000	0	05514		ANA DECMSK
	06417	0	34000	0	06423		CAS SF78
	06420	0	50000	0	06423		CLA SF78
	06421	0	76100	0	00000		NOP
D	06422	-3	00000	0	06437	SF76	TXL SF90,0
A	06423	0	00000	0	00000	SF78	HTR
	06424	0	50000	1	02544	SF79	CLA DOTAGZ+5,1
	06425	-0	32000	0	05514		ANA DECMSK
	06426	0	40200	0	05475		SUB L(1)
	06427	-0	10000	0	06437		TNZ SF90
	06430	0	02000	0	06465		TRA SFEND
	06431	-0	76000	0	00141	SF80	MSE 97
	06432	0	07400	4	00004		TSX DIAG,4 CURRENT DO,
	06433	0	50000	0	05511		CLA BITONE
	06434	-0	60200	1	02544		ORS DOTAGZ+5,1
	06435	0	50000	1	02544		CLA DOTAGZ+5,1
	06436	-0	32000	0	05514		ANA DECMSK
	06437	0	77100	0	00022	SF90	ARS 18
	06440	0	60100	0	06467		STO SFES1
	06441	-0	53400	1	06326		LXD SV48,1

IN ACC. AND COMPARE	F2104710
WITH INDEX OF SYMBOL DO.	F2104720
CURRENT INDEX GREATER.	F2104730
EQUALITY	F2104740
SYMBOL INDEX GREATER,	F2104750
TURN ON LIGHT 97.	F2104760
CUR. IND. GREATER, PUT IN XRC	F2104770
SYM. IND. IN XRA.	F2104780
LIGHT 97 OFF.	F2104790
AT SF30, XRA CONTAIN LEAST	F2104800
OF CUR. IND, SYM. IND. XRC	F2104810
CONTAINS GREATER. PUT IN ES.	F2104820
PUT LEVEL OF D(XRA) IN	F2104830
XRB. HALT IF	F2104840
LEVEL	F2104850
ERROR. GO TO DIAGNOSTIC.	F2104865
BACK UP IN XRA	F2104870
HALT IF TOP OD DOTAG	F2104880
ERROR. GO TO DIAGNOSTIC.	F2104895
THIS ROUTINE, BY RAISING	F2104900
XRA, EXITS TO SF80 OR	F2104910
SF90 UPON FINDING A DO	F2104920
IN THE SUBNEST OF XRA	F2104930
WHICH IS THE DO OF XRC OR	F2104940
CONTAINS THE DO OF XRC	F2104950
AND CURRENT DO.	F2104960
GO BACK FOR NEXT DO	F2104970
THIS ROUTINE (THROUGH SF76)	F2104980
	F2104990
USES TRA00	F2105000
	F2105010
TO DETERMINE THE	F2105020
GREATEST EXIT LEVEL OF	F2105030
DEFINITION FROM A	F2105040
DO SYM NOT IN THE	F2105050
SUBNEST OF A DO WITH	F2105060
VARIABLE NS, BUT IN A	F2105070
SUBNEST WHICH HAS A	F2105080
NON EMPTY INTERSECTION	F2105090
WITH THAT SUB NEST.	F2105100
	F2105110
	F2105120
	F2105130
	F2105140
	F2105150
EQUALITY, IF SYM DO IS	F2105160
ERROR. GO TO DIAGNOSTIC.	F2105175
	F2105180
	F2105190
OBTAIN LEVEL OF DEFINITION	F2105200
AND STORE	F2105210
IN ADDRESS PART	F2105220
OF SFES1.	F2105230
INDEX OF VAR.N. IN CUR. DO.	F2105240

06442	0	50000	1	02547	CLA	DOTAGZ+8,1	-OBTAIN PREVIOUS LEV. DEF.	F2105250
06443	-0	32000	0	05516	ANA	ADDMSK	AND COMPARE	F2105260
06444	0	34000	0	06467	CAS	SFES1	WITH NEW.	F2105270
06445	0	02000	0	06465	TRA	SFEND	EXIT UNLESS	F2105280
06446	0	02000	0	06465	TRA	SFEND	NEW LEV.	F2105290
06447	0	50000	0	06467	CLA	SFES1	IS LARGGER, IN WHICH CASE	F2105300
06450	0	62100	1	02547	STA	DOTAGZ+8,1	REPLACE OLD WITH NEW	F2105310
06451	-0	53400	2	06356	LXD	SF10,2	OBTAIN N COUNTER IN XRB	F2105320
06452	0	50000	1	02543	CLA	DOTAGZ+4,1	OBTAIN VAR. N IN ACC.	F2105330
06453	0	02000	0	06457	TRA	SF96	GO TO INDEXING.	F2105340
06454	0	34000	1	02543	CAS	DOTAGZ+4,1	COMPARE, TO FIND DUPLICATE	F2105350
06455	0	02000	0	06457	TRA	SF96	N S.	F2105360
06456	0	02000	0	06462	TRA	SF99	DUPE FOUND.	F2105370
06457	1	00001	1	06460	TXI	SF98,1,1	INDEX IN DO FORMULA	F2105380
06460	2	00001	2	06454	TXI	SF94,2,1	AND IN COUNTER	F2105390
06461	0	02000	0	06465	TRA	SFEND	REPLACE	F2105400
06462	0	50000	0	06467	CLA	SFES1	OLD LEVEL	F2105410
06463	0	62100	1	02547	STA	DOTAGZ+8,1	OF DEFINITION.	F2105420
06464	0	02000	0	06452	TRA	SF92	GO BACK FOR NEXT	F2105430
06465	-0	53400	4	06361	LXD	SF15,4	SYMBOL DO	F2105440
06466	0	02000	0	06331	TRA	SV65	ES.	F2105450
06467	0	00000	0	00000	SFES1	HTR	OUT OF DO FORMULA	F2105460
						GREATEST TRANSFER LEVEL		F2105470
06470	0	50000	1	02544	TRA00	CLA DOTAGZ+5,1	OBTAIL LEVEL OF DO	F2105480
06471	-0	73400	2	00000	PDX	0,2	USE MAX LEV TWENTY	F2105490
06472	-3	00024	2	06474	TRA10	TXL TRA20,2,20		F2105500
06473	-0	53400	2	06472	LXD	TRA10,2	INITIALIZE TEST INSTR.	F2105510
06474	-0	63400	2	06513	TRA20	SXD TRA50,2	COMPUTE LEVEL MINUS ONE	F2105520
06475	-0	75400	2	00000	PXD	0,2	AND INITIALIZE SHIFT INSTR.	F2105530
06476	0	77100	0	00022	ARS	18	COMPUTE 35 MINUS 1L MINUS	F2105540
06477	0	40200	0	06537	SUB	TRAN1	ONE) AND	F2105550
06500	0	62100	0	06515	STA	TRA70	INITIALIZE	F2105560
06501	0	40200	0	06540	SUB	TRAN2	SHIFT INSTR.	F2105570
06502	0	62100	0	06516	STA	TRA80	INITIALIZE	F2105580
06503	-0	75400	0	00000	PXD	0,0	ES LOCATION TO ZERO	F2105590
06504	0	60100	0	06542	STO	TRAN5	OR INTO TRAN5 ALL THE	F2105600
06505	-0	50000	1	02546	TRA30	CAL DOTAGZ+7,1	T2 WORDS OF THIS DO	F2105610
06506	-0	60200	0	06542	ORS	TRAN5	AND ALL DOS CONTAINED	F2105620
06507	1	77767	1	06510	TXI	TRA40,1,-9	BY THIS DO.	F2105630
06510	-3	00000	1	06514	TRA40	TXL TRA60,1		F2105640
06511	0	50000	1	02544	CLA	DOTAGZ+5,1		F2105650
06512	-0	73400	2	00000	PDX	0,2		F2105660
06513	3	00000	2	06505	TRA50	TXH TRA30,2	PUT MASK IN QUOTIENT	F2105670
06514	0	56000	0	06541	TRA60	LDQ TRAN4	REGISTER, SHIFT COMPUTED	F2105680
06515	0	76300	0	00000	TRA70	LLS	AMOUNTS TO CONSTRUCT	F2105690
06516	0	76700	0	00000	TRA80	ALS	MASK IN ACC. AND IN	F2105700
06517	-0	32000	0	06542	ANA	TRAN5	UNION OF T2 WORDS. EXIT IF ZERO.	F2105710
06520	0	10000	0	06536	TZE	TRA95	OBTAIN LOW ORDER BIT	F2105720
06521	0	60100	0	06542	STO	TRAN5	IN ACC.	F2105730
06522	0	40200	0	06537	SUB	TRAN1		F2105740
06523	0	60100	0	06543	STO	TRAN6		F2105750
06524	-0	50100	0	06542	ORA	TRAN5		F2105760
06525	0	40200	0	06543	SUB	TRAN6		F2105770
06526	-0	53400	1	05475	LXD	L(1),1		F2105780

A  
A

```

      ERROR. GO TO DIAGNOSTIC.
PUT LEVEL IN ACC DECREMENT
EXIT.

```

232



06614	-3	00001	2	06621	TXL TS15,2,1
06615	-0	76000	0	00141	MSE 97
06616	0	02000	0	06644	TRA TS30,0
06617	0	76000	0	00141	PSE 97
06620	1	77767	1	06650	TXI TS35,1,-9
06621	-0	76000	0	00141	MSE 97
06622	0	76100	0	00000	NOP
06623	0	50000	1	02537	CLA DOTAGZ,1
06624	0	73400	2	00000	PAX 0,2
06625	-0	32000	0	05514	ANA DECMSK
06626	0	60100	0	06756	STO TBNA
06627	-0	75400	2	00000	PXD 0,2
06630	0	60100	0	06757	STO TENA
06631	-0	53400	4	06755	LXD XFOR,4
06632	0	50000	0	06756	CLA TBNA
06633	0	34000	4	04510	CAS 4VALZ,4
06634	1	77776	4	06652	TXI TS40,4,-2
06635	0	07400	4	00004	TSX DIAG,4
06636	-0	63400	4	06755	SXD XFOR,4
06637	0	50000	0	06757	CLA TENA
06640	0	40200	4	04510	SUB 4VALZ,4
06641	0	12000	0	06643	TPL TS25
06642	0	76000	0	00141	PSE 97
06643	1	77767	1	06650	TXI TS35,1,-9
06644	0	50000	1	02537	CLA DOTAGZ,1
06645	-0	32000	0	05515	ANA TAGMSK
06646	-0	10000	0	06654	TNZ TS50
06647	1	77767	1	06650	TXI TS35,1,-9
06650	3	00000	1	06612	TS35
06651	-3	00000	0	06753	TS38
06652	3	00000	4	06633	TS40
06653	0	02000	0	06753	TRA T190
06654	-0	63400	1	06651	TS50
06655	-0	63400	2	06722	SXD T110,2
06656	-0	53400	4	06755	LXD XFOR,4
06657	-0	53400	2	05477	TS55
06660	-0	53400	1	06651	LXD TS38,1
06661	0	50000	0	06757	CLA TENA
06662	0	40200	4	04510	SUB 4VALZ,4
06663	-0	12000	0	06647	TMI TS33
06664	0	50000	4	04511	CLA 4VALZ+1,4
06665	0	34000	1	02543	TS60
06666	0	02000	0	06670	TRA TS65
06667	0	02000	0	06676	TRA TS80
06670	1	00001	1	06671	TS65
06671	2	00001	2	06665	TS70
06672	1	77776	4	06673	TXI TS75,4,-2
06673	3	00000	4	06657	TS75
06674	-0	53400	1	06651	LXD TS38,1
06675	1	77767	1	06650	TXI TS35,1,-9
06676	-0	63400	2	06743	TS80
06677	-0	63400	1	06742	SXD T148,2
06700	-0	53400	1	06651	LXD TS38,1
06701	-0	53400	2	06722	LXD T110,2

RECORD NO FORVAL FALLS IN THIS NEST.

GO TO NEST PROCEDURE. IF  
L IS NOT ONE AND LIGHT IS  
OFF, GO TO INNER DO PRECEDURE.  
IF LIGHT IS ON, CONTINUE  
INDEXING FOR NEXT NEST.

L IS ONE, DO NEST PROCEDURE.  
ESTABLISH BEGINNING OF  
NEST ADDRESS BNA, AND  
END OF NEST ADDRESS ENA.  
SEARCH IN FORTAG UNTIL  
FOR NRS. FOUND GREATER  
THAN ENA. IF NONE, EXIT  
FROM ENTIRE ROUTINE.  
TEST WHETHER FIRST SUCH  
NR. IS IN NEST IF NOT,  
(ERROR. GO TO DIAGNOSTIC.)  
GO TO INDEXING INSTRS.  
FOR NEXT DO.

INNER DO PROCEDURE.  
TEST FOR NON ZERO TAG,  
IN WHICH CASE TRA FOR  
TABLE SEARCH. OTHERWISE,  
INDEX FOR NEXT DO, IF POSSIBLE.  
EXIT, STORAGE FOR INDEX CUR. DO.  
INDEX TEST FOR FORVAL  
EXIT  
SAVE INDEX OF CURRENT DO  
SAVE LEVEL OF CURRENT DO  
OBTAIN FORVAL INDEX IN XRC  
PUT THREE IN XRC  
CURRENT DO IN XRA  
TEST FOR END OF NEST

NOT IN NEST, TRA FOR NEXT DO.  
IN NEST OBTAIN FORTAG  
SYMBOL, COMPARE WITH VAR  
N SYMBOLS.  
EQUALITY  
INDEX IN XRA,  
COUNT IN XRB  
TAKE NEXT FORTAG ENTRY,  
IF ANY  
RESTORE CURRENT DO INDEX  
AND TRA FOR NEXT DO.  
SAVE VAR. N. COUNTER.  
SAVE COUNTER OF SYM IN DO  
CURRENT DO INDEX IN XRA  
CURRENT DO LEVEL IN XRB

F2106330  
F2106340  
F2106350  
F2106360  
F2106370  
F2106380  
F2106390  
F2106400  
F2106410  
F2106420  
F2106430  
F2106440  
F2106450  
F2106460  
F2106470  
F2106480  
F2106490  
F2106505  
F2106510  
F2106520  
F2106530  
F2106540  
F2106550  
F2106560  
F2106570  
F2106580  
F2106590  
F2106600  
F2106610  
F2106620  
F2106630  
F2106640  
F2106650  
F2106660  
F2106670  
F2106680  
F2106690  
F2106700  
F2106710  
F2106720  
F2106730  
F2106740  
F2106750  
F2106760  
F2106770  
F2106780  
F2106790  
F2106800  
F2106810  
F2106820  
F2106830  
F2106840  
F2106850  
F2106860

D 06702 1 00001 2 06703  
 06703 0 50000 1 02544 TS85  
 06704 0 62200 0 06705  
 06705 3 00000 2 06711 TS90  
 06706 1 00011 1 06703 TS92  
 06707 2 00001 2 06706 TS94  
 06710 0 07400 4 00004  
 06711 0 50000 1 02537 T100  
 06712 -0 32000 0 05514  
 06713 0 40200 4 04510  
 06714 0 12000 0 06707  
 06715 0 50000 1 02537  
 06716 -0 32000 0 05516  
 06717 0 76700 0 00022  
 06720 0 40200 4 04510  
 06721 -0 12000 0 06707  
 D 06722 -3 00000 2 06724 T110  
 06723 0 02000 0 06746

06724 -0 53400 1 06742 T120  
 06725 0 50000 1 02547  
 06726 0 73400 2 00000  
 06727 -0 63400 2 06731  
 06730 -0 53400 2 06705  
 D 06731 -3 00000 2 06746 T130  
 06732 -0 75400 2 00000  
 06733 0 77100 0 00022  
 06734 0 62100 1 02547  
 06735 0 60100 0 06754  
 06736 -0 53400 2 06743  
 06737 0 50000 1 02543  
 06740 1 00001 1 06745  
 06741 0 34000 1 02543 T140  
 D 06742 -3 00000 0 06744 T144  
 D 06743 -3 00000 0 06747 T148

06744 1 00001 1 06745 T150  
 06745 2 00001 2 06741 T160  
 06746 1 77776 4 06673 T170  
 06747 0 50000 0 06754 T180  
 06750 0 62100 1 02547  
 06751 0 50000 1 02543  
 06752 1 00001 1 06745  
 06753 0 02000 0 06760 T190  
 A 06754 0 00000 0 00000 T195  
 A 06755 0 00000 0 00000 XFOR  
 A 06756 0 00000 0 00000 TBNA  
 A 06757 0 00000 0 00000 TENA

06760 -0 53400 2 05501 RH00  
 06761 0 50000 0 07155  
 06762 0 07400 4 07060  
 06763 3 02733 1 07053

TXI TS85,2,1  
 CLA DOTAGZ+5,1  
 STD TS90  
 TXH T100,2  
 TXI TS85,1,9  
 TIX TS92,2,1  
 TSX DIAG,4 IF NOT IN NEST,  
 CLA DOTAGZ,1  
 ANA DECMASK  
 SUB 4VALZ,4  
 TPL TS94  
 CLA DOTAGZ,1  
 ANA ADDMSK  
 ALS 18  
 SUB 4VALZ,4  
 TMI TS94  
 TXL T120,2  
 TRA T170

LXD T144,1  
 CLA DOTAGZ+8,1  
 PAX 0,2  
 SXD T130,2  
 LXD TS90,2  
 TXL T170,2  
 PXD 0,2  
 ARS 18  
 STA DOTAGZ+8,1  
 STO T195  
 LXD T148,2  
 CLA DOTAGZ+4,1  
 TXI T160,1,1  
 CAS DOTAGZ+4,1  
 TXL T150,0  
 TXL T180,0

TXI T160,1,1  
 TIX T140,2,1  
 TXI TS75,4,-2  
 CLA T195  
 STA DOTAGZ+8,1  
 CLA DOTAGZ+4,1  
 TXI T160,1,1  
 TRA RH00  
 HTR  
 HTR  
 HTR  
 HTR  
 LXD L(5),2  
 CLA 4VARAD  
 TSX RTAPE,4  
 TXH RH95,1,1499

ADJUST XRB FOR CURRENT DO TEST.  
 OBTAIN NEXT BACK DO IN  
 SUBNEST, ON FIRST TIME  
 THROUGH, CURRENT DO IS  
 PRODUCED.  
 ADJUST LEVEL.  
 ERROR, GO TO DIAGNOSTIC.  
 NEXT BACK DO FOUND.  
 TEST TO SEE IF FORTAG  
 FORMULA NR. IS IN THIS  
 DO. IF NOT, GO TO TS94  
 TO ADJUST LEVEL FOR  
 OBTAINING NEW SUBNEST DO.

DEC CONTAINS CURRENT LEVEL.  
 APPARENT DEFINITION OF A VARIABLE N WITHIN  
 RANGE OF THE DO WITH VARIABLE N. IGNORE AND  
 GET NEXT FORVAL.

PUT CUR. VAR. DO INDEX IN  
 XRA, AND OBTAIN LEV. DEF;  
 OF VAR. N.  
 STORE IN DEC OF T130.  
 OBTAIN LEVEL OF DO CONTAINING  
 FURTAG FOR. NR.  
 CHOOSE LARGER AND PUT IN  
 LEV. DEF, FIELD OF CURRENT DO.  
 IF CHANGE MADE, SAVE  
 LEVEL,  
 AND TEST TO SEE IF THIS  
 SYMBOL  
 DUPLICATED  
 IN DO VAR. N S.

IF SO, REPLACE ITS LEVEL(DEC HAS IX FOR VAR N)  
 OF DEF BY THIS ( DEC HAS 3,2,1 IF FORVAL  
 MATCHES VARIABLE N3,N2,N1)  
 NEW LEVEL.

EXIT  
 ES  
 FORTAG INDEX  
 ES  
 ES

USE OF SYMBOL WITHIN RANGE AS FXD POINT VAR. FORVAR SEARCH.  
 READ IN  
 FORVAR  
 EXIT IF FORVAR EMPTY

F2106870  
 F2106880  
 F2106890  
 F2106900  
 F2106910  
 F2106920  
 F2106935  
 F2106940  
 F2106950  
 F2106960  
 F2106970  
 F2106980  
 F2106990  
 F2107000  
 F2107010  
 F2107020  
 F2107030  
 F2107044  
 F2107046  
 F2107047  
 F2107050  
 F2107060  
 F2107070  
 F2107080  
 F2107090  
 F2107100  
 F2107110  
 F2107120  
 F2107130  
 F2107140  
 F2107150  
 F2107160  
 F2107170  
 F2107180  
 F2107190  
 F2107200  
 F2107201  
 F2107210  
 F2107220  
 F2107230  
 F2107240  
 F2107250  
 F2107260  
 F2107270  
 F2107280  
 F2107290  
 F2107300  
 F2107310  
 F2107320  
 F2107330  
 F2107340  
 F2107350  
 F2107360  
 F2107370

06764	-0	76000	0	00143		MSE 99
06765	0	02000	0	06770		TRA RH05
06766	0	76000	0	00143		PSE 99
06767	0	02000	0	07053		TRA RH95
06770	-0	63400	1	07032	RH05	SXD RH60,1
06771	-0	63400	1	07043		SXD RH75,1
06772	-0	53400	1	00030		LXD DOTAG-1,1
06773	-0	63400	1	07052		SXD RH90,1
06774	-0	53400	1	05507		LXD L(1500,1
06775	-0	63400	1	07054		SXD RHNNX,1
06776	-0	76000	0	00141		MSE 97
06777	0	76100	0	00000		NOP
07000	-0	53400	1	05506		LXD L(1350,1
07001	0	50000	1	02537	RH10	CLA DOTAGZ,1
07002	0	73400	2	00000		PAX 0,2
07003	-0	32000	0	05514		ANA DECM SK
07004	0	60100	0	07056		STO RFIRST
07005	-0	75400	2	00000		PXD 0,2
07006	0	60100	0	07057		STO RLAST
07007	0	50000	1	02544		CLA DOTAGZ+5,1
07010	-0	73400	2	00000		PDX 0,2
07011	3	00001	2	07017		TXH RH30,2,1
07012	-0	76000	0	00141		MSE 97
07013	0	02000	0	07015		TRA RH20
07014	0	02000	0	07053		TRA RH95
07015	-0	53400	4	07054	RH20	LXD RHNNX,4
07016	-0	63400	4	07055		SXD RHCNX,4
07017	-0	53400	4	07055	RH30	LXD RHCNX,4
07020	0	50000	0	07056		CLA RFIRST
07021	0	34000	4	05474	RH40	CAS 4VARZ,4
07022	1	77776	4	07032		TXI RH60,4,-2
07023	0	07400	4	00004		TSX DIAG,4
07024	-0	63400	4	07055		SXD RHCNX,4
07025	0	50000	0	07057	RH50	CLA RLAST
07026	0	34000	4	05474		CAS 4VARZ,4
07027	0	76100	0	00000		NOP
07030	0	02000	0	07034		TRA RH70
07031	0	02000	0	07047		TRA RH80
07032	3	00000	4	07021	RH60	TXH RH40,4
07033	0	02000	0	07053		TRA RH95
07034	0	50000	1	02540	RH70	CLA DOTAGZ+1,1
07035	0	40200	4	05475		SUB 4VARZ+1,4
07036	-0	10000	0	07042		TNZ RH72
07037	0	50000	0	05511		CLA BITONE
07040	-0	60200	1	02544		ORS DOTAGZ+5,1
07041	3	00001	2	07051		TXH RH85,2,1
07042	1	77776	4	07043	RH72	TXI RH75,4,-2
07043	3	00000	4	07025	RH75	TXH RH50,4
07044	3	00001	2	07051		TXH RH85,2,1
07045	0	76000	0	00141		PSE 97
07046	0	02000	0	07051		TRA RH85
07047	3	00001	2	07051	RH80	TXH RH85,2,1
07050	-0	63400	4	07054		SXD RHNNX,4
07051	1	77767	1	07052	RH85	TXI RH90,1,-9

TEST FOR EMPTY DOTAG.  
NOT EMPTY.  
EMPTY, RESTORE SENSE LIGHT  
AND EXIT.  
FORVAR TEST  
INITIALIZING.  
DOTAG TEST  
INITIALIZING  
MAX WORDS IN FORVAL  
IN NEXT NEST INDEX.  
TURN LIGHT 97 OFF.

PUT MAX WDS IN DOTAG IN XRA.  
OBTAIN FIRST DOTAG WORD.  
SEPARATE ALPHA AND BETA,  
STORE IN RFIRST AND RLAST.

OBTAIN LEVEL IN XRB.

TRA IF LEVEL GREATER THAN ONE.  
LEVEL IS ONE, TEST WHETHER,  
ON LAST LEVEL ONE, FORVAR  
EXHAUSTED. IF SO, EXIT.  
OTHERWISE, ADJUST FORVAR  
INDEX TO SKIP LAST NEST AREA.  
PUT FORVAR INDEX IN XRC.  
BEGIN SEARCH FOR FIRST  
FORVAR ENTRY IN RANGE.

ERROR. GO TO DIAGNOSTIC.  
SAVE INDEX AT THIS POINT  
FOR NEXT DO, AND COMPARE  
FORVAR ENTRY WITH RLAST

TRA, IN RANGE.  
TRA, NOT IN RANGE.  
IF NO ENTRIES GREATER  
THAN RFIRST, EXIT.  
IN RANGE, COMPARE SYMBOLS.  
IF EQUAL, PUT BIT IN  
DOTAG ENTRY.

INDEX FORVAR AND GO BACK,  
IF POSSIBLE. OTHERWISE,  
TEST LEVEL. IF LEVEL IS  
ONE, ARRANGE TO EXIT WHEN  
NEXT LEVEL ONE ENCOUNTERED.  
NOT IN RANGE, TEST LEVEL.  
SET NEXT NEST INDEX IF L IS ONE.  
INDEX IN DOTAG AND GO

F2107380  
F2107390  
F2107400  
F2107410  
F2107420  
F2107430  
F2107440  
F2107450  
F2107460  
F2107470  
F2107480  
F2107490  
F2107500  
F2107510  
F2107520  
F2107530  
F2107540  
F2107550  
F2107560  
F2107570  
F2107580  
F2107590  
F2107600  
F2107610  
F2107620  
F2107630  
F2107640  
F2107650  
F2107660  
F2107670  
F2107680  
F2107695  
F2107700  
F2107710  
F2107720  
F2107730  
F2107740  
F2107750  
F2107760  
F2107770  
F2107780  
F2107790  
F2107800  
F2107810  
F2107820  
F2107830  
F2107840  
F2107850  
F2107860  
F2107870  
F2107880  
F2107890  
F2107900  
F2107910

D	07052	3	00000	1	07001	RH90	TXH	RH10,1	BACK, IF POSSIBLE.	F2107920
	07053	0	02000	0	07157	RH95	TRA	LB00	EXIT	F2107930
A	07054	0	00000	0	00000	RHNNX	HTR		NEXT NGST INDEX	F2107940
A	07055	0	00000	0	00000	RHCNX	HTR		CURRENT NEST INDEX	F2107950
A	07056	0	00000	0	00000	RFIRST	HTR		ALPHA ADDRESS	F2107960
A	07057	0	00000	0	00000	RLAST	HTR		BETA ADDRESS	F2107970
										F2107980
									INITIALIZE TABLE ADDRESS	F2107990
	07060	0	62100	0	07101	RTAPE	STA	RT40	SAVE XRC, TSX SET	F2108000
	07061	0	60100	0	07126		STO	RT92	SAVE XRB,	F2108010
	07062	-0	63400	4	07124		SXD	RT80,4	TABLE NR. IN ADDRESS.	F2108020
	07063	-0	75400	2	00000		PXD	0,2		F2108030
	07064	0	77100	0	00022		ARS	18		F2108040
	07065	0	60100	0	07125		STO	RT90		F2108055
	07066	-0	53400	4	07136		LXD	RTD18,4	INITIALIZE ERROR COUNTER.	F2108060
	07067	-0	63400	4	07121		SXD	RT73,4		F2108070
	07070	0	76200	0	00222	RT10	RDS	TTAPE	SELECT TAPE	F2108080
	07071	-0	53400	1	07126		LXD	RT92,1	PUT MAX NR WORDS IN XRA	F2108090
	07072	-0	53400	4	05476		LXD	L(2),4	PUT TWO IN XRC	F2108100
	07073	0	70000	4	07131	RT20	CPY	RT95+2,4	COPY FIRST TWO WORDS.	F2108110
	07074	0	02000	0	07077		TRA	RT30	INTO E.S.	F2108125
	07075	0	07400	4	00004		TSX	DIAG,4 EOF.	ERROR. GO TO DIAGNOSTIC.	F2108135
	07076	0	07400	4	00004		TSX	DIAG,4 EQR.	ERROR. GO TO DIAGNOSTIC.	F2108140
	07077	2	00001	4	07073	RT30	TIX	RT20,4,1		F2108150
	07100	-3	00001	2	07131		TXL	RTD00,2,1		F2108160
	07101	0	70000	1	00000	RT40	CPY	0,1	COPY TABLE	F2108170
	07102	1	77777	1	07101		TXI	RT40,1,-1	COUNT NR. OF WORDS.	F2108185
	07103	0	07400	4	00004		TSX	DIAG,4 EOF.	ERROR. GO TO DIAGNOSTIC.	F2108190
	07104	0	76600	0	00333	RT45	WRS	219		F2108200
	07105	-0	76000	0	00012		RTT		ERROR TEST	F2108210
	07106	0	02000	0	07115		TRA	RT70	ERROR, TRA	F2108220
	07107	0	50000	0	07125		CLA	RT90	NO ERROR,	F2108230
	07110	0	40200	0	07127		SUB	RT95	TEST TABLE NR.	F2108240
	07111	0	10000	0	07113		TZE	RT60	NO ERROR	F2108255
	07112	0	07400	4	00004		TSX	DIAG,4 WRONG TABLE IDENT	NR. ERROR. GO TO DIAGNOSTIC.	F2108260
	07113	-0	53400	4	07124	RT60	LXD	RT80,4	TABLE CORRECT,	F2108270
	07114	0	02000	4	00001		TRA	1,4	RETURN.	F2108280
	07115	-0	53400	4	07121	RT70	LXD	RT73,4		F2108290
	07116	0	76400	0	00222		BST	TTAPE	ERROR, BACKSPACE TAPE	F2108300
	07117	-2	00001	4	07122		TNX	RT75,4,1		F2108310
	07120	-0	63400	4	07121		SXD	RT73,4	COUNT DOWN ERROR COUNTER.	F2108320
	07121	-3	00000	0	07070	RT73	TXL	RT10,0		F2108332
	07122	0	56000	0	07125	RT75	LDQ	RT90	IF FIVE FAILURES, PUT	F2108345
	07123	0	07400	4	00004		TSX	DIAG,4 TABLE NR. IN MQ.	ERROR. GO TO DIAGNOSTIC.	F2108350
	07124	0	00000	0	00000	RT80	HTR		TSX INDEX STORAGE	F2108360
	07125	0	00000	0	00000	RT90	HTR		TABLE NR STORAGE, C.S.	F2108370
	07126	0	00000	0	00000	RT92	HTR		ADDRESS WORD STORAGE	F2108380
	07127	0	00000	0	00000	RT95	HTR		TABLE NR, WD ONE OF TABLE.	F2108390
	07130	0	00000	0	00000	RT96	HTR		NR. OF WDS IN DEC.	F2108400
	07131	-0	75400	0	00000	RTD00	PXD	0,0	THIS ROUTINE	F2108410
	07132	-0	53400	4	07136	RTD10	LXD	RTD18,4	READS IN ONE	F2108420
	07133	0	70000	1	02537	RTD15	CPY	DOTAG2,1	ENTRY FROM	F2108430
	07134	1	77777	1	07137		TXI	RTD20,1,-1	TDO, AFTER WHICH	F2108445
	07135	0	07400	4	00004		TSX	DIAG,4 FOUR ZERO WORDS	ERROR. GO TO DIAGNOSTIC.	F2108450
	07136	-3	00005	0	07104	RTD18	TXL	RT45,0,5	ARE STORED BEFORE	

07137	2	00001	4	07133	RTD20	TIX	RTD15,4,1
07140	1	00003	4	07141	RTD23	TXI	RTD25,4,3
07141	0	60100	1	02537	RTD25	STO	DOTAGZ,1
07142	1	77777	1	07143		TXI	RTD30,1,-1
07143	0	60100	1	02537	RTD30	STO	DOTAGZ,1
07144	1	77777	1	07145		TXI	RTD35,1,-1
07145	0	60100	1	02537	RTD35	STO	DOTAGZ,1
07146	1	77777	1	07147		TXI	RTD40,1,-1
07147	0	60100	1	02537	RTD40	STO	DOTAGZ,1
07150	1	77777	1	07132		TXI	RTD10,1,-1
07151	0	02506	0	02537	DOAD	HTR	DOTAGZ,0,1350
07152	0	01750	0	04510	4VALAD	HTR	4VALZ,0,1000
07153	0	01130	0	03670	TIFAD	HTR	TIFZ,0,600
07154	0	00372	0	04263	TRADAD	HTR	TRADZ,0,250
07155	0	02734	0	05474	4VARAD	HTR	4VARZ,0,1500
07156	0	02734	0	03670	4TAGAD	HTR	FORTZ,0,1500
TRANSFER IN EXTENDED RANGE BIT.							
07157	-0	76000	0	00143	LB00	MSE	99
07160	0	02000	0	07163		TRA	LB02
07161	0	76000	0	00143		PSE	99
07162	0	02000	0	07211		TRA	EB00
07163	-0	53400	1	00030	LB02	LXD	DOTAG-1,1
07164	-3	00000	0	07207	LB05	TXL	LB60,0
07165	0	50000	1	02545	LB10	CLA	DOTAGZ+6,1
07166	-0	12000	0	07207		TMI	LB60
07167	-0	32000	0	05511		ANA	BITONE
07170	0	10000	0	07207		TZE	LB60
07171	-0	63400	1	07164		SXD	LB05,1
07172	0	50000	1	02544		CLA	DOTAGZ+5,1
07173	-0	73400	2	00000		PDX	0,2
07174	-0	50000	0	05510	LB20	CAL	LMSK
07175	-0	60200	1	02545		ORS	DOTAGZ+6,1
07176	-3	00001	2	07206		TXL	LB50,2,1
07177	1	00011	1	07200	LB25	TXI	LB30,1,9
07200	0	50000	1	02544	LB30	CLA	DOTAGZ+5,1
07201	0	62200	0	07202		STD	LB40
07202	-3	00000	2	07177	LB40	TXL	LB25,2
07203	-0	73400	2	00000		PDX	0,2
07204	0	50000	1	02545		CLA	DOTAGZ+6,1
07205	0	12000	0	07174		TPL	LB20
07206	-0	53400	1	07164	LB50	LXD	LB05,1
07207	1	00011	1	07210	LB60	TXI	LB70,1,9
07210	-3	02506	1	07165	LB70	TXL	LB10,1,1350
END OF BLOCK ROUTINE							
07211	0	77200	0	00223	EB00	REW	147
07212	-0	76000	0	00143		MSE	99
07213	0	02000	0	07216		TRA	EB10
07214	0	76000	0	00143		PSE	99
07215	0	02000	0	07233		TRA	EB50
07216	-0	53400	1	00030	EB10	LXD	DOTAG-1,1
07217	-0	63400	1	07230		SXD	EB40,1
07220	-0	53400	1	05506		LXD	L(1350,1
07221	-0	53400	4	05503	EB20	LXD	L(9),4
07222	0	50000	1	02544		CLA	DOTAGZ+5,1

READING IN  
THE NEXT ENTRY.  
STORE ZERO  
INDEX  
AND REPEAT.  
WHEN DOTAG  
ENTRY IS  
COMPLETE,  
TRA  
TO RTD10  
ADDRESS PART CONTAINS  
ADDRESS OF LAST WORD IN  
TABLE PLUS ONE.  
DEC CONTAINS MAX NR OF  
WRDS.

TEST FOR EMPTY DOTAG  
OFF, NOT EMPTY  
ON, EMPTY, RESET LIGHT  
AND EXIT  
OBTAIN NEXT UNUSED INDEX  
TRA TO ADJUST FOR LAST DO.  
OBTAIN T1 WORD.  
TEST SIGN, TRA IF NEG.  
TEST FOR TRA IN IMMED. RANGE.  
IF NONE, TRA.  
SAVE XRA  
PUT LEVEL  
IN XRB  
OR IN  
MSK  
EXIT IF LEVEL ONE.  
FIND NEXT BACK  
SUBNEST DO.

SAVE NEW LEVEL IN XRB.  
TEST SIGN OF WORD T1.  
IF PLUS GO TO PUT IN MSK.  
IF NOT, FIND NEXT DO  
IN MAIN PASS.  
EB00 FOLLOWS

REWIND DOTAG TAPE  
TEST FOR EMPTY DOTAG  
OFF, NOT EMPTY  
ON, EMPTY, RESTORE AND TRA.

INITIALIZE TEST INSTR.  
AND  
XRA  
WRITE  
DOTAG

F2108460  
F2108470  
F2108480  
F2108490  
F2108500  
F2108510  
F2108520  
F2108530  
F2108540  
F2108550  
F2108560  
F2108570  
F2108580  
F2108590  
F2108600  
F2108610  
F2108620  
F2108630  
F2108640  
F2108650  
F2108660  
F2108670  
F2108680  
F2108690  
F2108700  
F2108710  
F2108720  
F2108730  
F2108740  
F2108750  
F2108760  
F2108770  
F2108780  
F2108790  
F2108800  
F2108810  
F2108820  
F2108830  
F2108840  
F2108850  
F2108860  
F2108870  
F2108880  
F2108890  
F2108900  
F2108910  
F2108920  
F2108930  
F2108940  
F2108950  
F2108960  
F2108970  
F2108980  
F2108990

07223	-0	73400	2	00000	PDX 0,2	ON	F2109000
07224	3	00001	2	07226	TXH EB30,2,1	TAPE	F2109010
07225	0	76600	0	00223	WRS 147	ONE	F2109020
07226	0	70000	1	02537	CPY DOTAGZ,1	NEST	F2109030
07227	1	77777	1	07230	TXI EB40,1,-1	PER	F2109040
07230	-3	00000	1	07233	TXL EB50,1	RECORD	F2109050
07231	2	00001	4	07226	TIX EB30,4,1		F2109060
07232	0	02000	0	07221	TRA EB20		F2109070
07233	0	77000	0	00223	WEF 147	WRITE END OF FILE	F2109080
07234	-0	53400	2	05500	LXD L(4),2	READ	F2109090
07235	0	50000	0	07156	CLA 4TAGAD	IN	F2109100
07236	0	07400	4	07060	TSX RTAPE,4	FORTAG.	F2109110
07237	-0	63400	1	00733	SXD FORTAG-1,1	SET SENSE LIGHT 97	F2109120
07240	-0	76000	0	00141	MSE 97	ON IF FORTAG	F2109130
07241	0	76100	0	00000	NOP	EMPTY, OFF IF	F2109140
07242	-3	02733	1	07244	TXL EB70,1,1499	FORTAG	F2109150
07243	0	76000	0	00141	PSE 97	NOT EMPTY.	F2109160
07244	0	76200	0	00222	RDS TTAPE	MOVE TTAPE PAST	F2109170
07245	0	70000	0	07251	CPY EB80	END OF FILE MARK.	F2109180
07246	0	02000	0	07244	TRA EB70		F2109190
07247	0	02000	0	07252	TRA EB90	EOF	F2109200
07250	0	07400	4	00004	TSX DIAG,4	SHOULD NOT BE EOR HERE. ERROR. GO TO DIAGNOSTIC.	F2109215
07251	0	00000	0	00000	HTR	ES	F2109220
07252	-0	76000	0	00142	MSE 98	IS TRALEV TALBE EMPTY	F2109230
07253	0	02000	0	07260	TRA EB95	ON, EMPTY.	F2109240
07254	0	76600	0	00224	WRS TLTAPE		F2109250
07255	0	70000	0	05474	CPY L(0)		F2109260
07256	0	70000	0	05474	CPY L(0)		F2109270
07257	0	76000	0	00142	PSE 98		F2109280
07260	0	77000	0	00224	WEF TLTAPE	TRALEV TAPE	F2109290
07261	0	76200	0	00221	RDS 145	SKIP OVER DIAGNOSTIC RECORD ON SYSTEM TAPE.	F2109295
07262	0	02000	0	00004	TRA ONETCS	GO TO ONE TO CS ( MONITOR).	F2109296
07263	-0	63400	2	07301	SXD ERIR2,2	SAVE X R B	F2109311
07264	-0	53400	2	07302	LXD ERNBR,2	GET ERROR NUMBER	F2109321
07265	0	50000	4	02537	CLA DOTAGZ,4	SAVE ALPHA DO BETA	F2109331
07266	0	60100	2	77777	STO LIST,2	IN LIST	F2109341
07267	0	50000	4	02540	CLA DOTAGZ+1,4	AND SYMBOL	F2109351
07270	0	60100	2	77776	STO LIST-1,2		F2109361
07271	0	50000	1	02537	CLA DOTAGZ,1	SAVE OTHER ALPHA DO BETA	F2109371
07272	0	60100	2	77775	STO LIST-2,2		F2109381
07273	0	50000	1	02540	CLA DOTAGZ+1,1	AND SYMBOL	F2109391
07274	0	60100	2	77774	STO LIST-3,2		F2102401
07275	1	00004	2	07276	TXI ERNXT,2,4		F2109411
07276	-0	63400	2	07302	SXD ERNBR,2		F2109421
07277	-0	53400	2	07301	LXD ERIR2,2		F2109431
07300	0	02000	0	05625	TRA MR60		F2109441
07301	0	00000	0	00000	ERIR2		F2109451
07302	0	00000	0	00000	ERNBR		F2109461
07303	-0	63400	2	07301	ERBETA	SAVE ALPHA DO BETA	F2109471
07304	-0	53400	2	07302	SXD ERIR2,2	WHERE ALPHA	F2109481
07305	0	60000	2	77777	LXD ERNBR,2	IS GREATER THAN	F2109491
07306	0	50000	1	02537	STZ LIST,2	ITS BETA	F2109501
07307	0	60100	2	77776	CLA DOTAGZ,1		F2109511
07310	0	50000	1	02540	STO LIST-1,2		F2109521
					CLA DOTAGZ+1,1		

07311	0	60100	2	77775	STO	LIST-2,2
07312	1	00003	2	07313	TXI	ERNX,2,3
07313	-0	63400	2	07302	ERNX	SXD ERNBR,2
07314	-0	53400	2	07301	LXD	ERIR2,2
07315	0	02000	0	05570	TRA	MR15
07316	-0	53400	2	07302	ERTST	LXD ERNBR,2
07317	-3	00000	2	05662	TXL	FLOW,2,0
07320	0	07400	4	00004	TSX	4,4
				77777	LIST	SYN 32767
				00004	ONETCS	EQU 4
				00004	DIAG	EQU 4
				05510	LMSK	SYN L(MZ)
				00222	TTAPE	EQU 146
				00224	TLTAPE	EQU 148
				00000	END	

END OF BLOCK 1

F2109531  
 F2109541  
 F2109551  
 F2109561  
 F2109571  
 F2109581  
 F2109591  
 F2109601  
 F2109611  
 F2109710  
 F2109711  
 F2109712  
 F2109722  
 F2109732  
 F2109742

A

1  
1

## REM BLOCK TWO OF SECTION TWO.

## BLOCK TWO OF SECTION TWO.

MASTER RECORD CARD = FN034

BLOCK 2 OF SECTION 2 PERFORMS SUBSCRIPT ANALYSIS FOR THOSE  
SUBSCRIPT COMBINATIONS WHICH HAVE SUBSCRIPTS  
SOME OR ALL OF WHICH ARE UNDER CONTROL OF THEIR RESPECTIVE  
DOS. THERE ARE TWO MACHINE STATES, ONE  
OF WHICH IS RESERVED EXCLUSIVELY  
FOR THOSE SUBSCRIPT COMBINATIONS  
SOME SUBSCRIPT ELEMENT/S OF WHICH ARE  
NOT UNDER CONTROL OF A DO (RELATIVE  
CONSTANT).

```
00031      ORG 25
00031 DOTAG BSS 1
00032      BSS 449
00733 DOTAGZ BSS 1
00734 FORTAG BSS 1
00735      BSS 1499
03670 FORTZ BSS 1
03670      ORG 1976
03670 DOREC BSS 1
03671      BSS 1
03672 ATSW BSS 1
03673 NEWTAG BSS 1
03674 XC BSS 1
03675 LC BSS 1
03676 ALPHA BSS 1
03677 BETA BSS 1
03700 TAG BSS 1
03701 TS BSS 1
03702 TAG1 BSS 1
03703 GROUP BSS 1
03704 C1 BSS 1
03705 S1 BSS 1
03706 C2 BSS 1
03707 S2 BSS 1
03710 C3 BSS 1
03711 S3 BSS 1
03712 D1 BSS 1
03713 D2 BSS 1
03714 X1 BSS 1
03715 L1 BSS 1
03716 X2 BSS 1
03717 L2 BSS 1
03720 X3 BSS 1
03721 L3 BSS 1
03722 XL BSS 1
03723 LL BSS 1
03724 NRSUBS BSS 1
03725 NRRC BSS 1
03726 NRDS BSS 1
03727 DORC BSS 1
03730 RCSUBS BSS 1
03731 DOSUBS BSS 1
```

(INIT ZERO)

```
ADDED TAG SWITCH. EQ 1 IF PROC ADDED TAGS(INIT OF 2200200
(INIT 4000MOD8, FIRSTTAG) 2200210
IX CURRENT DO. 2200220
LEV CURRENT DO 2200230
ALPHA CURRENT DO 2200240
BETA CURRENT DO 2200250
TAG CURRENT TAG IN ROUTINE TAG 2200260
TAG, EITHER FORTAG OR NEW TAG NAME OF CURRENT 2200270
4TH WD OF TAGTAG 2200280
GROUP NR. IN DEC 2200290
COEFF 1ST SYMB (HERE TO D2 BELOW, INIT 0, SUBCOMF 2200300
SUBSCR 1ST SYMB 2200310
COEFF 2ND SYMB 2200320
SUBSC 2ND 2200330
COEFF 3RD 2200340
SUBSC 3RD 2200350
DIMENSION 1ST 2200360
DIM 2ND 2200370
IX DO MATHCHING 1ST SYMB.) (HERE TO CARWRD 2200380
LEV DO MATHCHING 1ST SYMB BELOW, INIT 0, IDENT 2200390
IX DO MATHCHING 2ND SYMB 2200400
LEV DO MATHCHING 2ND 2200410
IX DO MATHCHING 3RD 2200420
LEV DO MATHCHING 3RD 2200430
IX LOWEST LEVEL DOSUB 2200440
LEV LOWEST LEVEL DOSUB 2200450
NR. SUBSCRIPTS IN SUBSCR COMBINATION 2200460
NR. RELCONS IN SUBSCR COMBINATION 2200470
NR DOSUBS IN S.C. 2200480
BIT POS 15,16,17 EQ 1 IF CORRES X1,X2,X3 DORC 2200490
BIT POS 15,16,17 EQ 1 IF CORRES X1,X2,X3 RELCONF 2200500
BIT POS 15,16,17 EQ 1 IF CORRES X1,X2,X3 DOSUB 2200510
```



03732	DELTA	BSS	1
03733	RCDUP	BSS	1
03734	DUPE	BSS	1
03735	RSYM1	BSS	1
03736	RSYM2	BSS	1
03737	CARWRD	BSS	1
03740	TL1	BSS	1
03741	TL2	BSS	1
03742	A	BSS	1
03743	B	BSS	1
03744	NEXTA	BSS	1
03745	LASTB	BSS	1
03746	REBITS	BSS	1
03747	TRABIT	BSS	1
03750	LOWPOS	BSS	1
03751	0 00000 0 00000	L(0)	0,0,0
03752	0 00001 0 00000	L(1)	0,0,1
03753	0 00002 0 00000	L(2)	0,0,2
03754	0 00003 0 00000	L(3)	0,0,3
03755	0 00004 0 00000	L(4)	0,0,4
03756	0 00005 0 00000	L(5)	0,0,5
03757	0 00006 0 00000	L(6)	0,0,6
03760	0 00024 0 00000	L(20)	0,0,20
03761	0 00044 0 00000	L(36)	0,0,36
03762	0 00074 0 00000	L(60)	0,0,60
03763	0 00702 0 00000	L(450)	0,0,450
03764	0 02734 0 00000	L(1500)	0,0,1500
03765	0 00000 0 00001	L(1)A	1
03766	0 00000 0 00002	L(2)A	2
03767	0 00000 0 00004	L(4)A	4
03770	-0 00000 0 00000	L(MZ)	MZE
03771	+377777777777	35ONES	OCT 377777777777
03772	+0777777000000	DECMSK	OCT 777770000000
03773	+000000077777	ADDMSK	OCT 77777
03774	+000100000000	CR1	OCT 100000000
03775	+000040000000	CR2	OCT 40000000
03776	+000000300000	CARMSK	OCT 300000
03777	+000000004000	FRSTAG	OCT 4000
04000	+200000000000	BITONE	OCT 200000000000
04001	+100000000000	BITTWO	OCT 100000000000
04002	-200000000000	2BITS	OCT -200000000000
04003	+000000400000	BIT18	OCT 400000
04004	+000000200000	BIT19	OCT 200000
04005	+000000100000	BIT20	OCT 100000
04006	0 00000 0 00144	ADTX	100
04007	0 00000 0 00454	RESXX	300
04010	0 00000 0 00120	TAGXX	80
04011	0 00000 0 00144	NAMXX	100
04012	0 77200 0 00223	BEGIN	REW DOTAPE
04013	-0 53400 1 03756	LXD	L(5),1
04014	0 50000 1 05106	BEG10	CLA LADDIN+5,1
04015	-0 32000 0 03773	ANA	ADDMSK

BIT POS 15,16,17,EQ1 FOR CORRES DUPE RELCONS  
BIT POS 15,16,17 EQ 1 FOR CORRES DUPE DOSUBS

BIT 11 IF LEFT TYPE 1 CARRY, 12 LEFT TYPE 2,  
13 CENTER TYPE 1, 14 CENTER TYPE 2.  
S SET NEG IF COUNTER AND TEST FOUND

5,3,1 IF LL SUBSCR IS X1,X2,X3 RESPECT. (1D)

BIT 11  
BIT 12  
BITS 19,20 (CARRY BITS OF DOTAG, WD 6)

S AND 1 BIT

DEC CONTAINS (FROM HERE TO NAMXX BELOW,  
IX VALUE FOR NEXT (DEC INIT SET TO ADD)  
TABLE ENTRY.

REWIND DOTAG TAPE  
INITIALIZE  
DRUM PROGRAM  
ADDRESSES

F2200520  
F2200530  
F2200540  
F2200550  
F2200560  
F2200570  
F2200571  
F2200572  
F2200580  
F2200590  
F2200600  
F2200610  
F2200620  
F2200630  
F2200640  
F2200650  
F2200660  
F2200670  
F2200680  
F2200690  
F2200700  
F2200710  
F2200720  
F2200730  
F2200740  
F2200750  
F2200760  
F2200770  
F2200780  
F2200790  
F2200800  
F2200810  
F2200820  
F2200830  
F2200840  
F2200850  
F2200860  
F2200870  
F2200880  
F2200890  
F2200900  
F2200910  
F2200920  
F2200930  
F2200940  
F2200950  
F2200960  
F2200970  
F2200980  
F2200990  
F2201000  
F2201010  
F2201020  
F2201030

04016	0	60100	1	05101	STO LADDS+5,1		F2201040
04017	2	00001	1	04014	TIX BEG10,1,1		F2201050
04020	0	50000	0	03751	CLA L(0)		F2201060
04021	0	60100	0	03670	STO DOREC		F2201070
04022	-0	76000	0	00012	RTT	TURN	F2201080
04023	0	76100	0	00000	NOP	LIGHT OFF	F2201090
04024	-0	53400	6	03751	LXD L(0),6	TEST FOR EMPTY	F2201100
04025	-0	76000	0	00144	MSE 100	FORVAL	F2201110
04026	-0	53400	4	03752	LXD L(1),4	OFF, NOT EMPTY	F2201120
04027	-0	63400	4	04112	SXD END80,4	ON, EMPTY	F2201130
04030	-0	76000	0	00143	MSE 99	TEST FOR	F2201140
04031	-0	53400	2	03752	LXD L(1),2	EMPTY DOTAG.	F2201150
04032	-0	63400	2	04113	SXD END85,2	SAVE TABLE INFO IN END PROG.	F2201160
04033	-3	00000	2	04043	TXL END,2,0	IF DOTAG EMPTY, GO TO END.	F2201170
04034	-0	53400	1	00733	LXD FORTAG-1,1	INITIALIZE	F2201180
04035	-0	63400	1	05426	SXD TINF30,1	FORTAG	F2201190
04036	-0	63400	1	04407	SXD TAG20,1	TEST	F2201200
04037	-0	63400	1	04516	SXD TAG90,1	INSTRUCTIONS.	F2201210
04040	0	50000	0	03777	CLA FRSTAG	INITIALIZE NEW TAG NAME BASE.	F2201220
04041	0	60100	0	03673	STO NEWTAG		F2201230
04042	0	02000	0	04116	TRA NEST		F2201240
04043	0	77000	0	00224	WEF ATAPE	WEF ON TAGTAG TAPE	F2201250
04044	0	76600	0	00303	WRS 195	MAKE END OF DRUMTAG TABLE ENTRY.	F2201260
04045	0	46000	0	05100	LDA LADDS+4		F2201270
04046	0	70000	0	03771	CPY 350NES		F2201280
04047	0	70000	0	03771	CPY 350NES		F2201290
04050	-0	53400	1	03756	LXD L(5),1		F2201300
04051	0	76600	0	00333	WRS 219	DELAY.	F2201310
04052	0	76600	0	00303	WRS ADRUM	WRITE	F2201320
04053	0	50000	1	05106	CLA LADDIN+5,1	ALL	F2201330
04054	0	40200	0	03766	SUB L(2)A	DRUM	F2201340
04055	0	62100	0	04114	STA END90	TABLE	F2201350
04056	0	50000	1	05106	CLA LADDIN+5,1	WORD	F2201360
04057	-0	32000	0	03773	ANA ADDMSK	COUNTS	F2201370
04060	0	40200	1	05101	SUB LADDS+5,1	IN	F2201380
04061	0	76000	0	00003	SSP	FIRST	F2201390
04062	0	60100	0	04115	STO END95	TWO	F2201400
04063	0	46000	0	04114	LDA END90	WORDS	F2201410
04064	0	70000	0	04115	CPY END95	PRECEDING	F2201420
04065	0	70000	0	04115	CPY END95	EACH TABLE . (TSXCOM, TRASTO, NAMKEY,	F2201430
04066	2	00001	1	04051	TIX END10,1,1	CHATAG, DRMTAG)	F2201440
04067	0	76000	0	00140	PSE 96	RESTORE SENSE LIGHTS	F2201450
04070	-0	53400	1	04112	LXD END80,1	SL 100 ON, FORVAL EMPTY	F2201460
04071	3	00000	1	04073	TXH END20,1,0	SL 99 ON, DOTAG EMPTY.	F2201470
04072	0	76000	0	00144	PSE 100		F2201480
04073	-0	53400	1	04113	LXD END85,1		F2201490
04074	3	00000	1	04076	TXH END30,1,0		F2201500
04075	0	76000	0	00143	PSE 99		F2201510
04076	0	77000	0	00222	WEF TAPE2	WRITE EOF AFTER DONEST RECORDS.	F2201520
04077	0	76600	0	00222	WRS TAPE2		F2201530
04100	0	70000	0	03670	CPY DOREC	MAKE AN EXTRA FILE WITH	F2201540
04101	0	70000	0	03670	CPY DOREC	DONEST RECORD COUNT.	F2201550
04102	0	77000	0	00222	WEF TAPE2		F2201560
04103	0	50000	0	05075	CLA LADDS+1	TRASTO CARRYOVER TO BLOCK 3.	F2201570

	04104	0	60100	0	07775	STO	4093			F2201580
	04105	0	50000	0	05074	CLA	LADDS	TSXCOM CARRYOVER TO BLOCK 3.		F2201590
	04106	0	60100	0	07776	STO	4094			F2201600
	04107	0	50000	0	05076	CLA	LADDS+2	NAMKEY (OR NAME) CARRYOVER TO BLOCK 3.		F2201610
	04110	0	60100	0	07777	STO	4095			F2201620
	04111	0	02000	0	06647	TRA	NORMRT			F2201635
A	04112	0	00000	0	00000	END80	HTR	ES. (DEC HAS 1 IF FORVAL NOT EMPTY)		F2201640
A	04113	0	00000	0	00000	END85	HTR	FOR (DEC HAS 1 IF DOTAG NOT EMPTY)		F2201650
A	04114	0	00000	0	00000	END90	HTR	END		F2201670
A	04115	0	00000	0	00000	END95	HTR	PROGRAM.		F2201680
	04116	-0	53400	1	03751	NEST	LXD L(0),1	READ		F2201690
	04117	0	76200	0	00223	NEST10	RDS DOTAPE	ONE		F2201700
	04120	-0	53400	2	03763		LXD L(450),2	NEST OF DO FORMULAS		F2201710
	04121	0	70000	2	00733	NEST20	CPY DOTAGZ,2	FROM		F2201720
	04122	1	77777	2	04156		TXI NEST60,2,-1	DOTAPE.		F2201730
	04123	0	02000	0	04043		TRA END	IF EOF, GO TO ROUTINE END.		F2201740
	04124	0	50000	0	03751	NEST30	CLA L(0)	INITIALIZING INSTRUCTIONS.		F2201750
	04125	0	60100	0	03672		STO ATSW			F2201760
	04126	-0	63400	2	03674		SXD XC,2	PUT C(XRB) IN XC		F2201780
	04127	-0	63400	2	00030		SXD DOTAG-1,2	INITIALIZE		F2201790
	04130	-0	63400	2	04260		SXD NEST95,2	DECS		F2201800
	04131	-0	63400	2	05451		SXD TRAW20,2	THAT		F2201810
	04132	-0	63400	2	05464		SXD TRAW50,2	TEST		F2201820
	04133	-0	63400	2	05316		SXD SPC040,2	END OF		F2201830
	04134	-0	63400	2	05353		SXD SPC090,2	DONEST.		F2201840
	04135	0	53400	4	04006		LXA ADTXX,4	INIT		F2201850
	04136	-0	63400	4	04006		SXD ADTXX,4	DECS		F2201860
	04137	0	53400	4	04007		LXA RESXX,4	FROM		F2201870
	04140	-0	63400	4	04007		SXD RESXX,4	ADDRESSES.		F2201880
	04141	0	53400	4	04010		LXA TAGXX,4			F2201890
	04142	-0	63400	4	04010		SXD TAGXX,4			F2201900
	04143	0	53400	4	04011		LXA NAMXX,4			F2201910
	04144	-0	63400	4	04011		SXD NAMXX,4			F2201920
	04145	0	76600	0	00333		WRS 219	MAKE		F2201930
	04146	-0	76000	0	00012		RTT	RTT		F2201940
	04147	0	02000	0	04151		TRA NEST35	TEST		F2201950
	04150	0	02000	0	04262		TRA DOFOR	IF NO ERROR, GO TO DOFOR.		F2201960
	04151	1	00001	1	04152	NEST35	TXI NEST40,1,1	IF ERROR,		F2201970
	04152	3	00004	1	04155	NEST40	TXH NEST50,1,4	TRY 4 TIMES MORE FOR		F2201985
	04153	0	76400	0	00223		BST DOTAPE	CORRECT READ.		F2201990
	04154	0	02000	0	04117		TRA NEST10	AFTER FIFTH INCORRECT READ,		F2202002
	04155	0	07400	4	00004	NEST50	TSX DIAG,4	ERROR. GO TO DIAGNOSTIC.		F2202015
	04156	3	00000	2	04121	NEST60	TXH NEST20,2,0	INDEX COPY. IF DOTAG		F2202020
	04157	0	70000	0	04163		CPY NEST70	STORAGE FULL, AND MORE		F2202030
	04160	0	07400	4	00004		TSX DIAG,4	ERROR. GO TO DIAGNOSTIC.		F2202045
	04161	0	07400	4	00004		TSX DIAG,4	ERROR. GO TO DIAGNOSTIC.		F2202055
	04162	0	02000	0	04124		TRA NEST30	NO ENTRIES LEFT, GO TO NEST30.		F2202060
A	04163	0	00000	0	00000	NEST70	HTR	E.S.		F2202070
	04164	-0	53400	2	03755	NESTEN	LXD L(4),2	PUT END OF NEST INDICATION		F2202080
	04165	0	50000	0	03771		CLA 35ONES	IN TAGTAG, CONSISTING OF		F2202090
	04166	0	60100	2	05067	NEST80	STO E1+4,2	FOUR WORDS OF 35 ONES.		F2202100
	04167	2	00001	2	04166		TXI NEST80,2,1			F2202120
	04170	0	07400	4	05510		TSX TAGENT,4	ENTER IN TAGTAG AND		F2202130
	04171	0	07400	2	05522		TSX TETAPE,2	WRITE BUFFER ON TAPE.		F2202140

	04172	0	50000	0	03752	CLA L(1)	SET ADDED TAG SWITCH	F2202150
	04173	0	60100	0	03672	STO ATSW	AND GO TO DRMENT TO	F2202160
	04174	0	07400	4	05206	TSX DRMENT,4	PROCESS ADDED TAGS	F2202170
	04175	-0	53400	1	04011	LXD NAMXX,1	TRANSFER	F2202180
	04176	-0	63400	1	04212	SXD NEST84,1	TO DRUM TABLE NAME	F2202190
	04176	-0	63400	1	04212	SXD NEST84,1	TO DRUM TABLE NAME	F2202190
	04177	0	53400	1	04011	LXA NAMXX,1	ALL ENTRIES	F2202200
D	04200	-3	00000	0	04212	NEST81 TXL NEST84,0	IN CORE TABLE NAME	F2202210
	04201	0	50000	1	07301	NEST82 CLA NAMZ,1		F2202220
	04202	0	60100	0	05063	STO E1		F2202230
	04203	0	50000	1	07302	CLA NAMZ+1,1		F2202240
	04204	0	60100	0	05064	STO E2		F2202250
	04205	0	50000	0	05071	CLA NAMKEY		F2202260
	04206	-0	63400	1	04200	SXD NEST81,1		F2202270
	04207	0	07400	4	05025	TSX LIST,4		F2202280
	04210	-0	53400	1	04200	LXD NEST81,1		F2202290
	04211	1	77776	1	04212	TXI NEST84,1,-2		F2202300
D	04212	3	00000	1	04201	NEST84 TXH NEST82,1	TRANSFER	F2202310
	04213	-0	53400	1	04006	LXD ADTXX,1	TO DRUM TABLE NAME	F2202320
	04214	-0	63400	1	04234	SXD NEST88,1	ALL ENTRIESP	F2202330
	04215	0	53400	1	04006	LXA ADTXX,1	IN CORE TABLE ADTAG	F2202340
D	04216	-3	00000	0	04234	NEST85 TXL NEST88,0	EXCEPT	F2202350
	04217	-0	50000	1	07136	NEST86 CLA ADTAGZ+1,1	RESET	F2202360
	04220	-0	12000	0	04233	TMI NEST87	ENTRIES	F2202370
	04221	0	60100	0	05064	STO E2		F2202380
	04222	0	50000	1	07135	CLA ADTAGZ,1		F2202390
	04223	0	60100	0	05063	STO E1		F2202400
	04224	-0	73400	2	00000	PDX 0,2		F2202410
	04225	0	50000	2	00733	CLA DOTAGZ,2		F2202420
	04226	0	62200	0	05063	STD E1		F2202430
	04227	-0	63400	1	04216	SXD NEST85,1		F2202440
	04230	0	50000	0	05071	CLA NAMKEY		F2202450
	04231	0	07400	4	05025	TSX LIST,4		F2202460
	04232	-0	53400	1	04216	LXD NEST85,1		F2202470
	04233	1	77776	1	04234	NEST87 TXI NEST88,1,-2		F2202480
D	04234	3	00000	1	04217	NEST88 TXH NEST86,1		F2202490
	04235	-0	53400	1	00030	NST100 LXD DOTAG-1,1		F2202500
	04236	0	02000	0	04247	TRA NST120		F2202510
	04237	0	50000	1	00743	NST110 CLA DOTAGZ+8,1	DOES BIT 20 WD 9 OF THIS DOTAG	F2202520
	04240	-0	32000	0	04005	ANA BBIT	EQ 1.	F2202530
	04241	0	10000	0	04247	TZE NST120	AND	F2202540
	04242	0	50000	1	00732	CLA DOTAGZ-1,1	DOES BIT 18 WD 9 OF PRIOR DOTAG	F2202550
	04243	-0	32000	0	04003	ANA ABIT	EQ 1.	F2202560
	04244	-0	10000	0	04247	TNZ NST120		F2202570
	04245	0	50000	0	03773	CLA ADDMSK	YES. ERASE DEC WD 9	F2202580
	04246	0	32000	1	00743	ANS DOTAGZ+8,1	OF PRIOR DOTAG.	F2202590
	04247	1	00011	1	04250	NST120 TXI NST130,1,9		F2202610
	04250	-3	00671	1	04237	NST130 TXL NST110,1,441		F2202620
	04251	0	50000	0	03670	CLA DOREC	WRITE	F2202630
	04252	0	40000	0	03752	ADD L(1)	DOTAG	F2202640
	04253	0	60100	0	03670	STO DOREC	ON	F2202660
	04254	0	76600	0	00222	WRS TAPE2	TAPE TWO.	F2202670
	04255	-0	53400	1	03763	LXD L(450),1	COUNT NR.	F2202680
	04256	0	70000	1	00733	NEST90 CPY DOTAGZ,1	OF NESTS	F2202690

D

04257	1	77777	1	04260	TXI	NEST95,1,-1
04260	3	00000	1	04256	NEST95	TXH NEST90,1
04261	0	02000	0	04116	TRA	NEST
04262	-0	53400	1	03674	DOFOR	LXD XC,1
04263	1	00011	1	04264	TXI	DOF10,1,9
04264	3	00702	1	04164	DOF10	TXH NESTEN,1,450
04265	0	07400	4	04363	TSX	DOINFO,4
04266	0	02000	0	04377	TRA	TAG00
04267	-0	53400	1	03674	DOFEND	LXD XC,1
04270	0	50000	1	00743	CLA	DOTAGZ+8,1
04271	-0	32000	0	04004	ANA	BIT19
04272	0	10000	0	04326	TZE	MAKESC
04273	-0	50000	1	00740	CAL	DOTAGZ+5,1
04274	-0	32000	0	04002	ANA	2BITS
04275	-0	10000	0	04301	TNZ	DOF15
04276	0	50000	0	04005	CLA	BIT20
04277	-0	32000	1	00741	ANA	DOTAGZ+6,1
04300	0	10000	0	04305	TZE	DOF20
04301	0	50000	1	00741	DOF15	CLA DOTAGZ+6,1
04302	-0	32000	0	04001	ANA	BITTWO
04303	-0	10000	0	04322	TNZ	DOF40
04304	0	02000	0	04326	TRA	MAKESC
04305	0	50000	1	00740	DOF20	CLA DOTAGZ+5,1
04306	-0	32000	0	04003	ANA	SUBBIT
04307	0	10000	0	04314	TZE	DOF30
04310	0	50000	1	00743	CLA	DOTAGZ+8,1
04311	-0	73400	2	00000	PDX	0,2
04312	3	00000	2	04322	TXH	DOF40,2,0
04313	0	02000	0	04326	TRA	MAKESC
04314	0	50000	1	00743	DOF30	CLA DOTAGZ+8,1
04315	0	77100	0	00014	ARS	12
04316	-0	73400	2	00000	PDX	0,2
04317	-3	00013	2	04322	TXL	DOF40,2,11
04320	0	50000	0	04005	CLA	BBIT
04321	-0	60200	1	00743	ORS	DOTAGZ+8,1
04322	0	50000	0	04325	DOF40	CLA DOF50
04323	0	32000	1	00743	ANS	DOTAGZ+8,1
04324	0	02000	0	04262	TRA	DOFOR
04325	+00	7777777777		DOF50	OCT	7777777777
04326	0	50000	0	03755	MAKESC	CLA L(4)
04327	0	60100	0	03731	STO	DOSUBS
04330	0	50000	0	03751	CLA	L(0)
04331	0	60100	0	03730	STO	RCSUBS
04332	0	60100	0	03727	STO	DORC
04333	0	60100	0	03704	STO	C1
04334	0	60100	0	03737	STO	CARWRD
04335	0	50000	0	03673	CLA	NEWTAG
04336	0	60100	0	03701	STO	TS
04337	0	40000	0	03765	ADD	L(1)A
04340	0	60100	0	03673	STO	NEWTAG
04341	0	07400	4	06075	TSX	INS00,4
04342	0	50000	0	03757	CLA	L(6)
04343	-0	50100	0	03767	ORA	L(4)A
04344	-0	50100	0	03737	ORA	CARWRD

IN DOREG.  
(DEC HAS DOTAG IX)  
RETURN FOR NEXT NEST.  
OBTAIN  
NEXT BACK DO,  
IF ANY.  
USE DOINFO  
AND GO TO TAG00 ROUTINE.  
IS A COUNTER

NECESSARY BECAUSE OF  
TRANSFERS OR COMPUTATION WITH  
SYMBOL.  
TEST FOR  
DELTA TWO  
INSERT  
HAS A COUNTER BEEN  
FOUND.  
IF NOT,  
MAKE ONE. (RETURN IS TO DOF40)  
IF NO COUNTER NECESSARY,  
HAS SYM OCCURRED WITH  
RECON NOT AS TYPE ONE  
CARRY. IF SO, HAS A  
TEST BEEN FOUND.  
IF NOT,  
MAKE A COUNTER (RETURN IS TO DOF40)  
IF SYM HAS NOT OCCURRED WITH  
RELCON OR IN SUCH OCCURRENCES  
WAS ALWAYS A TYPE ONE  
CARRY, IS CORRECT TEST

MADE. TAKE SIGN AND  
TEST TABLE INTEGER OUT  
OF TEST WORD AND EXIT.

INITIALIZE  
DOSUBS AND OTHER LOCATIONS  
USED IN INS00.

GET A NAME  
FOR THIS  
SUBSCRIPT AND  
UP DATE NEWTAG.  
USE INS00 FOR TEST INFO,LIST.  
SET UP TAG TAG  
ENTRY

F2202700  
F2202710  
F2202720  
F2202730  
F2202740  
F2202750  
F2202760  
F2202770  
F2202780  
F2202790  
F2202800  
F2202810  
F2202820  
F2202830  
F2202840  
F2202850  
F2202860  
F2202870  
F2202880  
F2202890  
F2202900  
F2202910  
F2202920  
F2202930  
F2202940  
F2202950  
F2202960  
F2202970  
F2202980  
F2202990  
F2203000  
F2203010  
F2203020  
F2203030  
F2203040  
F2203050  
F2203060  
F2203070  
F2203080  
F2203090  
F2203100  
F2203110  
F2203120  
F2203130  
F2203140  
F2203150  
F2203160  
F2203170  
F2203180  
F2203190  
F2203200  
F2203210  
F2203220  
F2203230

04345	0	60200	0	05066	SLW E4		F2203240
04346	0	50000	0	03701	CLA TS		F2203250
04347	0	60100	0	05065	STO E3		F2203270
04350	0	50000	0	03751	CLA L(0)		F2203280
04351	0	60100	0	05064	STO E2		F2203290
04352	0	50000	0	03674	CLA XC		F2203300
04353	0	77100	0	00022	ARS 18		F2203310
04354	-0	50100	0	03676	ORA ALPHA		F2203320
04355	0	60100	0	05063	STO E1		F2203340
04356	0	07400	4	05510	TSX TAGENT,4	ENTER INTO TAGTAG.	F2203350
04357	-0	53400	1	03674	LXD XC,1		F2203360
04360	0	50000	0	04003	CLA ABIT		F2203370
04361	-0	60200	1	00743	ORS DOTAGZ+8,1		F2203380
04362	0	02000	0	04322	TRA DOF40	RETURN	F2203390
04363	0	50000	1	00733	DOINFO CLA DOTAGZ,1	FOR THE DO FORMULA WHOSE	F2203400
04364	0	73400	2	00000	PAX 0,2	INDEX IS IN XRA,	F2203410
04365	-0	32000	0	03772	ANA DECMSK	ESTABLISH	F2203420
04366	0	60100	0	03676	STO ALPHA	ALPHA,BETA,XC,XL	F2203430
04367	-0	75400	2	00000	PXD 0,2		F2203440
04370	0	60100	0	03677	STO BETA		F2203450
04371	-0	75400	1	00000	PXD 0,1		F2203460
04372	0	60100	0	03674	STO XC		F2203470
04373	0	50000	1	00740	CLA DOTAGZ+5,1		F2203480
04374	-0	32000	0	03772	ANA DECMSK		F2203490
04375	0	60100	0	03675	STO LC		F2203500
04376	0	02000	4	00001	TRA 1,4		F2203510
04377	-0	53400	1	03764	TAG00 LXD L(1500,1	THIS ROUTINE	F2203520
04400	0	02000	0	04407	TRA TAG20	SELECTS EVERY TAG	F2203530
04401	0	50000	1	03670	TAG05 CLA FORTZ,1	IN THE RANGE OF THE	F2203540
04402	-0	32000	0	03772	ANA DECMSK	CURRENT DO WHICH	F2203550
04403	0	34000	0	03676	CAS ALPHA	CONTAINS THE SUBSCRIPT	F2203560
04404	0	02000	0	04413	TRA TAG30	SYMBOL OF THE CURRENT	F2203570
04405	0	07400	4	00004	TSX DIAG,4	DO, AND WHICH HAS NOT	F2203585
04406	1	77777	1	04407	TAG10 TXI TAG20,1,-1	PREVIOUSLY BEEN	F2203590
04407	3	00000	1	04401	TAG20 TXH TAG05,1	PROCESSED, AND (DEC HAS FORTAG IX)	F2203600
04410	0	02000	0	04267	TRA DOFEND	COMPLETELY PROCESSES	F2203610
04411	-0	53400	1	04414	TAG25 LXD TAG40,1	THE TAG, THE RETURN	F2203620
04412	0	02000	0	04406	TRA TAG10	IS TO DOFEND	F2203630
04413	0	34000	0	03677	TAG30 CAS BETA	COMPARE WITH BETA.	F2203640
04414	-3	00000	0	04267	TAG40 TXL DOFEND,0	RANGE FINISHED. (DEC HAS CURR FORTAG IX)	F2203650
04415	0	76100	0	00000	NOP	IF ENTRY IS NEGATIVE,	F2203660
04416	0	50000	1	03670	CLA FORTZ,1	THEN IT HAS ALREADY	F2203670
04417	-0	12000	0	04406	TMI TAG10	BEEN PROCESSED.	F2203680
04420	-0	32000	0	03773	ANA ADDMSK	STORE	F2203690
04421	0	60100	0	03700	STO TAG	IN TAG,	F2203710
04422	-0	63400	1	04414	SXD TAG40,1	AND SAVE INDEX.	F2203720
04423	0	07400	4	04520	TSX SUBCOM,4	OBTAIN SUB. COM.	F2203730
04424	0	76100	0	00000	NOP		F2203745
04425	0	07400	4	05566	TSX IDENT,4	USE IDENT.	F2203750
04426	0	02000	0	04411	TRA TAG25	SC. NOT WANTED.	F2203760
04427	0	07400	4	06030	TSX NAME,4	SC. TO BE PROCESSED. USE NAME.	F2203770
04430	0	07400	4	05106	TSX BRANCH,4		F2203780
04431	0	07400	4	04614	TSX SCEND,4		F2203800
04432	0	07400	4	05510	TSX TAGENT,4		F2203810

04433 -0 53400 2 03756 TAG50 LXD L(5),2  
 04434 0 50000 2 03721 TAG52 CLA X1+5,2  
 04435 0 10000 0 04447 TZE TAG58  
 04436 -0 73400 1 00000 PDX 0,1  
 04437 3 00004 2 04445 TXH TAG56,2,4  
 04440 0 50000 0 03774 CLA CR1  
 04441 3 00002 2 04443 TXH TAG54,2,2  
 04442 0 77100 0 00002 ARS 2  
 04443 -0 32000 0 03737 TAG54 ANA CARWRD  
 04444 -0 10000 0 04447 TNZ TAG58  
 04445 0 50000 0 04003 TAG56 CLA ABIT  
 04446 -0 60200 1 00743 ORS DOTAGZ+8,1  
 04447 2 00002 2 04434 TAG58 TIX TAG52,2,2  
 04450 -0 53400 4 03756 LXD L(5),4  
 04451 0 50000 4 03721 TAG60 CLA X1+5,4  
 04452 0 10000 0 04500 TZE TAG68  
 04453 -0 73400 1 00000 PDX 0,1  
 04454 0 50000 0 03730 CLA RCSUBS  
 04455 -0 50100 0 03727 ORA DORC  
 04456 0 10000 0 04470 TZE TAG66  
 04457 -3 00001 4 04465 TXL TAG64,4,1  
 04460 0 50000 0 03774 CLA CR1  
 04461 3 00003 4 04463 TXH TAG62,4,3  
 04462 0 77100 0 00002 ARS 2  
 04463 -0 32000 0 03737 TAG62 ANA CARWRD  
 04464 -0 10000 0 04500 TNZ TAG68  
 04465 0 50000 0 04003 TAG64 CLA SUBBIT  
 04466 -0 60200 1 00740 ORS DOTAGZ+5,1  
 04467 -3 00000 0 04500 TAG65 TXL TAG68,0  
 04470 0 50000 0 04004 TAG66 CLA BIT19  
 04471 -0 60200 1 00743 ORS DOTAGZ+8,1  
 04472 0 50000 1 00740 CLA DOTAGZ+5,1  
 04473 -0 32000 0 04002 ANA 2BITS  
 04474 -0 10000 0 04500 TNZ TAG68  
 04475 -0 63400 4 04467 SXD TAG65,4  
 04476 0 07400 2 04665 TSX TEST,2  
 04477 -0 53400 4 04467 LXD TAG65,4  
 04500 2 00002 4 04451 TAG68 TIX TAG60,4,2  
 04501 -0 53400 1 04414 TAG70 LXD TAG40,1  
 04502 0 50000 1 03670 TAG72 CLA FORTZ,1  
 04503 -0 32000 0 03772 ANA DECMSK  
 04504 0 34000 0 03677 CAS BETA  
 04505 -3 00000 0 04411 TAG75 TXL TAG25,0  
 04506 0 76100 0 00000 NOP  
 04507 0 50000 1 03670 CLA FORTZ,1  
 04510 -0 32000 0 03773 ANA ADDMSK  
 04511 0 40200 0 03700 SUB TAG  
 04512 -0 10000 0 04515 TNZ TAG80  
 04513 -0 50000 0 03770 CAL L(MZ)  
 04514 -0 60200 1 03670 ORS FORTZ,1  
 04515 1 77777 1 04516 TAG80 TXI TAG90,1,-1  
 04516 3 00000 1 04502 TAG90 TXH TAG72,1  
 04517 0 02000 0 04411 TRA TAG25

ENTER BIT 18 WD 9  
 OF MATCHING DOTAG  
 IF 1ST SUBSCR OR  
 IF THERE IS NO  
 TYPE 1 CARRY INTO  
 THE 2ND AND 3RD  
 SUBSCRs RESPECTIVELY.

ENTER BIT 18 WD 9.

TAG 60 SEQUENCE CONCERNS  
 TESTS AND ADDED TAGS.  
 FOR EACH INDEXED SUBSCRIPT,  
 DETERMINE F IRST WHETHER

OR NOT IT  
 OCCURS WITH  
 A RELCON.  
 IF SO, PUT IN  
 SUBBIT MEANING A TEST  
 IS NEEDED UNLESS  
 THE 1ST AND 2ND  
 SUBSCR PROMOTE A  
 TYPE ONE CARRY (LEFT  
 OR CENTER RESPECTIVELY)  
 IS  
 NEEDED.

IF THE SUBSCRIPT DOES NOT 3CCUR  
 WITH A RELCON, DETERMINE WHETHER OR  
 NOT A COUNTER HAS ALREADY BEEN REQUESTED.  
 IF SO, TAKE NEXT INDEXED SUBSCR.  
 IF NOT, USE ROUTINE TEST.  
 THEN TAKE NEXT INDEXED SUBSCRIPT.

SET ALL OCCURRANCES  
 OF THIS TAG, IN FORTAG,  
 IN THE RANGE OF THIS  
 DO, NEGATIVE.

(DEC HAS FORTAG IX)  
 RETURN FOR NEXT TAG.

THIS ROUTINE, GIVEN A TAU TAG, OBTAINS THE

F2203820  
 F2203830  
 F2203840  
 F2203850  
 F2203860  
 F2203870  
 F2203890  
 F2203900  
 F2203910  
 F2203920  
 F2203930  
 F2203940  
 F2203950  
 F2203960  
 F2203970  
 F2203980  
 F2203990  
 F2204000  
 F2204020  
 F2204030  
 F2204040  
 F2204050  
 F2204060  
 F2204070  
 F2204080  
 F2204090  
 F2204100  
 F2204110  
 F2204120  
 F2204130  
 F2204140  
 F2204160  
 F2204170  
 F2204180  
 F2204190  
 F2204200  
 F2204210  
 F2204220  
 F2204230  
 F2204240  
 F2204250  
 F2204260  
 F2204270  
 F2204280  
 F2204290  
 F2204300  
 F2204310  
 F2204320  
 F2204330  
 F2204340  
 F2204350  
 F2204360  
 F2204370  
 F2204380

CORRESPONDING SUBSCRIPT COMBINATION FROM THE TAU DRUM AND POSITIONS IT IN PROPER FORMAT IN STORAGE.										
04520	-0	63400	4	04601	SUBCOM	SXD	SUB085,4	SAVE LINKAGE INDEX.	F2204390	
04521	-0	53400	1	04607		LXD	SUBORG,1	INITIALIZE ERROR COUNTER.	F2204400	
04522	0	76200	0	00304	SUB010	RDS	TAUDRM	SELECT TAU DRUM.	F2204410	
04523	-0	53400	4	04611		LXD	SUBORG+2,4	INITIALIZE	F2204420	
04524	-0	75400	0	00000		PXD	0,0	SUBSCRIPT COMBINATION	F2204430	
04525	0	60100	4	03714	SUB020	STO	C1+8,4	SPACE	F2204440	
04526	2	00001	4	04525		TIX	SUB020,4,1	TO ZERO.	F2204450	
04527	0	50000	0	03700		CLA	TAG	COMPUTE	F2204460	
04530	0	76500	0	00011		LRS	9	DRUM	F2204470	
04531	0	73400	6	00000		PAX	0,6	ADDRESS.	F2204480	
04532	-0	75400	0	00000		PXD	0,0	TAU ONE ADD. IS ORG+3TAU.	F2204490	
04533	0	76300	0	00011		LLS	9	TAU TWO ADD. IS ORG+5TAU.	F2204500	
04534	0	60100	0	04612		STO	SUBES1	TAU THREE ADD. IS ORG+7TAU.	F2204510	
04535	0	76700	0	00001		ALS	1	STORE	F2204520	
04536	0	60100	0	04613		STO	SUBES2	ADDRESS	F2204530	
04537	0	50000	4	04612		CLA	SUBORG+3,4	IN SUBES1	F2204540	
04540	0	40000	0	04612		ADD	SUBES1	FOR LDA	F2204550	
04541	0	40000	0	04613	SUB030	ADD	SUBES2	INSTRUCTION.	F2204560	
04542	2	00001	4	04541		TIX	SUB030,4,1		F2204570	
04543	0	62100	0	04612		STA	SUBES1		F2204580	
04544	0	46000	0	04612		LDA	SUBES1		F2204590	
04545	0	70000	0	03704		CPY	C1	COPY SUB. COMB.	F2204600	
04546	-3	00002	2	04550		TXL	SUB040,2,2	TAU ONE, TWO, THREE	F2204610	
04547	0	70000	0	03710		CPY	C3		F2204620	
04550	0	70000	0	03705	SUB040	CPY	S1	TAU 3	F2204630	
04551	-3	00001	2	04556		TXL	SUB060,2,1	TAU 1,2,3	F2204640	
04552	0	70000	0	03707		CPY	S2	TAU 2,3	F2204650	
04553	-3	00002	2	04555		TXL	SUB050,2,2		F2204660	
04554	0	70000	0	03711		CPY	S3	TAU 3	F2204670	
04555	0	70000	0	03712	SUB050	CPY	D1	TAU 2,3	F2204680	
04556	0	70000	0	04612	SUB060	CPY	SUBES1	TAU 1,2,3	F2204690	
04557	-0	53400	4	04607		LXD	SUBORG,4	COMPUTE CHECK SUM	F2204700	
04560	-0	50000	0	03704		CAL	C1	AND COMPARE WITH	F2204710	
04561	0	36100	4	03713	SUB070	ACL	C1+7,4	ENTRY CHECK SUM.	F2204720	
04562	2	00001	4	04561		TIX	SUB070,4,1	THREE ATTEMPTS ARE MADE	F2204730	
04563	0	60200	0	04613		SLW	SUBES2	TO READ SC CORRECTLY.	F2204740	
04564	0	50000	0	04613		CLA	SUBES2	IF ERROR STILL PRESENT,	F2204750	
04565	0	40200	0	04612		SUB	SUBES1	COMPLETE ROUTINE, MAKE ERROR RET.	F2204760	
04566	0	10000	0	04571		TZE	SUB075	CHECK SUMS AGREE, TRA.	F2204770	
04567	2	00001	1	04522		TIX	SUB010,1,1	CHECK SUMS DISAGREE	F2204780	
04570	0	07400	4	00004	PAT03	TSX	DIAG,4	IN READING TAU FROM DRUM. ERROR. GO TO DIAGNOSTIC.	F2204790	
04571	-0	53400	4	04610	SUB075	LXD	SUBORG+1,4	REARRANGE C1,C2,D1,D2,	F2204805	
04572	0	50000	4	03713	SUB080	CLA	C1+7,4	TO COMPLY WITH CORE	F2204815	
04573	0	73400	2	00000		PAX	0,2	STORAGE FORMAT.	F2204820	
04574	-0	32000	0	03772		ANA	DECMASK		F2204830	
04575	0	60100	4	03713		STO	C1+7,4		F2204840	
04576	-0	75400	2	00000		PXD	0,2		F2204850	
04577	-2	00006	4	04602		TNX	SUB090,4,6		F2204860	
04600	0	60100	0	03706		STO	C2		F2204870	
04601	-3	00000	0	04572	SUB085	TXL	SUB080,0		F2204880	
04602	0	60100	0	03713	SUB090	STO	D2		F2204890	
04603	-0	53400	4	04601		LXD	SUB085,4	RESTORE LINKAGE INDEX,	F2204900	
									F2204910	
									F2204920	



04604 0 76100 0 00000 NOP  
 04605 0 02000 4 00002 TRA 2,4  
 04606 0 76100 0 00000 SUB100 NOP  
 04607 +000006001356 SUBORG OCT 6001356  
 04610 +000007000454 OCT 7000454  
 04611 +000010000000 OCT 10000000  
 04612 0 00000 0 00000 SUBES1 HTR  
 04613 0 00000 0 00000 SUBES2 HTR  
  
 04614 0 50000 0 03703 SCEND CLA GROUP  
 04615 0 60100 0 03702 STO TAG1  
 04616 0 50000 0 03731 CLA DOSUBS  
 04617 -0 50100 0 03734 ORA DUPES  
 04620 0 77100 0 00022 ARS 18  
 04621 -0 60200 0 03702 ORS TAG1  
 04622 0 50000 0 03730 CLA RCSUBS  
 04623 -0 50100 0 03727 ORA DORC  
 04624 0 77100 0 00017 ARS 15  
 04625 -0 60200 0 03702 ORS TAG1  
 04626 0 50000 0 03734 CLA DUPES  
 04627 0 77100 0 00011 ARS 9  
 04630 -0 60200 0 03702 ORS TAG1  
 04631 -0 50000 0 03737 CAL CARWRD  
 04632 -0 60200 0 03702 ORS TAG1  
 04633 -0 53400 1 03756 LXD L(5),1  
 04634 0 50000 0 03752 SCE010 CLA L(1)  
 04635 0 34000 1 03711 CAS C1+5,1  
 04636 0 02000 0 04645 TRA SCE020  
 04637 0 02000 0 04645 TRA SCE020  
 04640 -0 75400 1 00000 PXD 0,1  
 04641 -3 00001 1 04643 TXL SCE015,1,1  
 04642 0 40200 0 03752 SUB L(1)  
 04643 0 77100 0 00006 SCE015 ARS 6  
 04644 -0 60200 0 03702 ORS TAG1  
 04645 2 00002 1 04634 SCE020 TIX SCE010,1,2  
 04646 0 50000 0 03702 CLA TAG1  
 04647 0 60100 0 05066 STO E4  
 04650 0 50000 0 03700 CLA TAG  
 04651 0 76700 0 00022 ALS 18  
 04652 0 40000 0 03701 ADD TS  
 04653 0 60100 0 05065 STO E3  
 04654 0 50000 0 03720 CLA X3  
 04655 0 77100 0 00022 ARS 18  
 04656 0 40000 0 03716 ADD X2  
 04657 0 60100 0 05064 STO E2  
 04660 0 50000 0 03714 CLA X1  
 04661 0 77100 0 00022 ARS 18  
 04662 0 40000 0 03676 ADD ALPHA  
 04663 0 60100 0 05063 STO E1  
 04664 0 02000 4 00001 TRA 1,4  
 04665 0 50000 1 00743 TEST CLA DOTAGZ+8,1  
 04666 -0 12000 2 00001 TMI 1,2  
 04667 2 00001 4 04670 TIX TEST10,4,1  
 04670 -0 75400 4 00000 TEST10 PXD 0,4

NORMAL RETURN.

DEC. IS 6, ADD. IS ORG. TAU 3  
 DEC. IS 7, ADD. IS ORG. TAU 2  
 DEC. IS 8, ADD. IS ORG. TAU 1  
 E.S.  
 E.S.

SCEND COLLECTS TAGTAG ENTRY AND MAKES TABLE ENTRY  
 ALL OF SCEND IS CONCERNED  
 WITH GENERATING THE  
 TAGTAG ENTRY FROM ITS

VARIOUS COMPONENTS.

GENERATES THE THREE BIT  
 TAG SHOWING WHICH  
 COEFFICIENTS ARE GREATER  
 THAN ONE.

TAG1 IS NOW COMPLETE.  
 CONSTRUCT THE TAGTAG  
 ENTRY

IF A SUFFICIENTLY GOOD  
 TEST PREVIOUSLY FOUND, EXIT.  
 XRC CONTAINS 5,3,1,  
 DEPENDING ON POSITION NR

F2204935  
 F2204940  
 F2204955  
 F2204960  
 F2204970  
 F2204980  
 F2204990  
 F2205000  
 F2205010  
 F2205020  
 F2205030  
 F2205040  
 F2205050  
 F2205060  
 F2205070  
 F2205079  
 F2205080  
 F2205100  
 F2205110  
 F2205120  
 F2205130  
 F2205140  
 F2205150  
 F2205160  
 F2205170  
 F2205180  
 F2205190  
 F2205200  
 F2205210  
 F2205220  
 F2205230  
 F2205240  
 F2205250  
 F2205260  
 F2205270  
 F2205280  
 F2205290  
 F2205300  
 F2205310  
 F2205320  
 F2205330  
 F2205340  
 F2205350  
 F2205360  
 F2205370  
 F2205380  
 F2205390  
 F2205400  
 F2205410  
 F2205420  
 F2205430  
 F2205440  
 F2205450  
 F2205460

04671 0 76700 0 00003  
 04672 -0 50100 0 03703  
 04673 -3 00001 4 04701  
 04674 0 60100 0 04732  
 04675 0 50000 0 03737  
 04676 0 76700 4 00005  
 04677 -0 32000 0 04733  
 04700 -0 50100 0 04732  
 04701 -0 53400 4 04704 TEST20  
 04702 0 34000 4 04754 TEST30  
 04703 1 77777 4 04706  
 04704 -3 00017 0 04707 TEST35  
 04705 1 77777 4 04706  
 04706 3 00000 4 04702 TEST40  
 04707 -0 63400 4 04715 TEST50  
 04710 0 50000 1 00743  
 04711 -0 73400 4 00000  
 04712 -3 00000 4 04720  
 04713 0 77100 0 00014  
 04714 -0 73400 4 00000  
 04715 -3 00000 4 04731 TEST60  
 04716 0 50000 0 04734 TEST70  
 04717 0 32000 1 00743  
 04720 -0 53400 4 04715 TEST75  
 04721 -0 75400 4 00000  
 04722 0 77100 0 00006  
 04723 -0 50100 0 03701  
 04724 -0 76700 0 00022  
 04725 -0 60200 1 00743  
 04726 3 00000 4 04731  
 04727 -0 50000 0 03770  
 04730 -0 60200 1 00743  
 04731 0 02000 2 00001 TEST80  
 04732 0 00000 0 00000 TEST85  
 04733 +000300000000 TEST90  
 04734 +000000777777 TEST95  
 04735 +000241000000 TESTAB  
 04736 +000221000000  
 04737 +000244000000  
 04740 +000222000000  
 04741 +000141000000  
 04742 +000121000000  
 04743 +000144000000  
 04744 +000122000000  
 04745 +000045000000  
 04746 +000041000000  
 04747 +000021000000  
 04750 +000044000000  
 04751 +000022000000  
 04752 +000043000000  
 04753 +000023000000  
 04754 -0 63400 4 04770 CARRY  
 04755 0 50000 2 03720  
 04756 -0 73400 1 00000

ALS 3  
 ORA GROUP  
 TXL TEST20,4,1  
 STO TEST85  
 CLA CARWRD  
 ALS 5,4  
 ANA TEST90  
 ORA TEST85  
 LXD TEST35,4  
 CAS TESTAB+15,4  
 TXI TEST40,4,-1  
 TXL TEST50,0,15  
 TXI TEST40,4,-1  
 TXH TEST30,4,0  
 SXD TEST60,4  
 CLA DOTAGZ+8,1  
 PDX 0,4  
 TXL TEST75,4,0  
 ARS 12  
 PDX 0,4  
 TXL TEST80,4  
 CLA TEST95  
 ANS DOTAGZ+8,1  
 LXD TEST60,4  
 PXD 0,4  
 ARS 6  
 ORA TS  
 ALS 18  
 ORS DOTAGZ+8,1  
 TXH TEST80,4,0  
 CAL L(MZ)  
 ORS DOTAGZ+8,1  
 TRA 1,2  
 HTR  
 OCT 300000000  
 OCT 777777  
 OCT 241000000  
 OCT 221000000  
 OCT 244000000  
 OCT 222000000  
 OCT 141000000  
 OCT 121000000  
 OCT 144000000  
 OCT 122000000  
 OCT 45000000  
 OCT 41000000  
 OCT 21000000  
 OCT 44000000  
 OCT 22000000  
 OCT 43000000  
 OCT 23000000  
 SXD CAR05,4  
 CLA X1+4,2  
 PDX 0,1

(DEC HAS TEST TAB NR. FOR THIS S.C.)

1,2,3. CONSTRUCT A  
 TABLE SEARCH MASK IN  
 WHICH THE FORTH OCTAL  
 DIGIT IS THE CARRY BIT  
 INFO. FOR THE POSITION  
 BEING CONSIDERED, THE  
 FIFTH OCTAL DIGIT IS THE  
 POSITION BIT, AND THE  
 SIXTH OCTAL DIGIT  
 IS THE GROUP NUMBER.  
 SEARCH TESTAB FOR  
 ENTRY AND CONSIDER  
 C(XRC) AFTER SEARCH, IF  
 ENTRY NOT FOUND, C(XRC)=0.  
 COMPARE THIS INTEGER  
 WITH PREVIOUS INTEGER,  
 IF ANY, IF NEW NR. IS LESS  
 THAN OLD, USE NEW TAG  
 FOR TEST. OTHERWISE  
 USE OLD TAG.

STORAGE FOR COMPOSED TST WORD.  
 BITS 10, 11

FIRST SIGNIF DIGIT CONTAINS  
 A TWO IF TYPE ONE CARRY,  
 ONE IF TYPE TWO FROM LEFT OR  
 CENTER. (4TH OCT DIG). NEXT  
 HAS 4 IF POSIT OF SUBSC IS  
 LEFT, 2 IF CENTER, 0 IF RIGHT  
 (5TH OCT DIGIT). FINAL DIG HAS  
 GROUP NR. (6TH OCT DIG).

SAVE LINKAGE  
 PUT LEFT INDEX  
 IN XRA

F2205470  
 F2205480  
 F2205490  
 F2205500  
 F2205510  
 F2205520  
 F2205530  
 F2205540  
 F2205550  
 F2205560  
 F2205570  
 F2205580  
 F2205590  
 F2205600  
 F2205610  
 F2205620  
 F2205630  
 F2205640  
 F2205650  
 F2205660  
 F2205670  
 F2205680  
 F2205690  
 F2205700  
 F2205710  
 F2205720  
 F2205730  
 F2205740  
 F2205750  
 F2205760  
 F2205770  
 F2205780  
 F2205790  
 F2205800  
 F2205810  
 F2205820  
 F2205830  
 F2205840  
 F2205850  
 F2205860  
 F2205870  
 F2205880  
 F2205890  
 F2205900  
 F2205910  
 F2205920  
 F2205930  
 F2205940  
 F2205950  
 F2205960  
 F2205970  
 F2205980  
 F2205990  
 F2206000

	04757	0	50000	2	03722		CLA	X1+6,2
	04760	-0	73400	4	00000		PDX	0,4
	04761	0	50000	1	00740		CLA	DOTAGZ+5,1
	04762	-0	32000	0	03776		ANA	CARMSK
	04763	0	10000	0	05022		TZE	CAR30
	04764	0	50000	1	00741		CLA	DOTAGZ+6,1
	04765	-0	32000	0	03772		ANA	DECMSK
	04766	0	34000	0	03723		CAS	LL
	04767	0	02000	0	05022		TRA	CAR30
D	04770	-3	00000	0	05022	CAR05	TXL	CAR30,0
	04771	0	50000	1	00740		CLA	DOTAGZ+5,1
	04772	-0	32000	0	03773		ANA	ADDMSK
	04773	0	60100	0	05024		STO	CAR40
	04774	0	56000	0	05024		LDQ	CAR40
	04775	0	20000	2	03710		MPY	C1+4,2
	04776	-0	60000	0	05024		STQ	CAR40
	04777	0	56000	0	03712		LDQ	D1
	05000	3	00002	2	05002		TXH	CAR10,2,2
	05001	0	56000	0	03713		LDQ	D2
	05002	0	20000	4	00737	CAR10	MPY	DOTAGZ+4,4
	05003	0	20000	2	03712		MPY	C1+6,2
	05004	0	76700	0	00021		ALS	17
	05005	0	40200	0	05024		SUB	CAR40
	05006	-0	10000	0	05022		TNZ	CAR30
	05007	0	50000	1	00740		CLA	DOTAGZ+5,1
	05010	-0	32000	0	03776		ANA	CARMSK
	05011	0	77100	0	00017		ARS	15
	05012	0	76000	0	00001		LBT	
	05013	0	02000	0	05016		TRA	CAR15
	05014	0	50000	0	03774		CLA	CR1
	05015	0	02000	0	05017		TRA	CAR20
	05016	0	50000	0	03775	CAR15	CLA	CR2
	05017	3	00002	2	05021	CAR20	TXH	CAR25,2,2
	05020	0	77100	0	00002		ARS	2
	05021	-0	60200	0	03737	CAR25	ORS	CARWRD
	05022	-0	53400	4	04770	CAR30	LXD	CAR05,4
	05023	0	02000	4	00001		TRA	1,4
A	05024	0	00000	0	00000	CAR40	HTR	
	05025	-0	63400	4	05060	LIST	SXD	LIST40,4
	05026	-0	73400	1	00000		PDX	0,1
	05027	0	73400	6	00000		PAX	0,6
	05030	0	40000	0	05061		ADD	LIST50
	05031	0	62100	0	05046		STA	LIST30
	05032	0	62100	0	05041		STA	LIST20
	05033	0	50000	1	05106		CLA	LADDIN+5,1
	05034	0	77100	0	00022		ARS	18
	05035	0	40200	1	05101		SUB	LADDS+5,1
	05036	-0	10000	0	05040		TNZ	LIST10
	05037	0	07400	4	07774		TSX	BURNC,4
	05040	-0	75400	0	00000	LIST10	PXD	0,0
	05041	0	36100	2	00000	LIST20	ACL	0,2
	05042	2	00001	2	05041		TIK	LIST20,2,1
	05043	0	76600	0	00303		WRS	ADRUM
	05044	0	60200	0	05062		SLW	LIST60

	PUT RIGHT INDEX	F2206010
	IN XRC	F2206020
	TEST LEFS SUB. DO	F2206030
	CARRY BITS.	F2206040
	EXIT IF NO CARRY.	F2206050
	COMPARE	F2206060
	NO CARRY TRA LEVEL	F2206070
	AND LOW LEVEL.	F2206080
	EXIT	F2206090
		F2206100
	COMPUTE FOR LEFT	F2206110
	SUBSCRIPT THE QUANTITY	F2206120
	C*X (COEF. TIMES ADDED	F2206130
	VALUE).	F2206140
	COMPUTE FOR RIGHT	F2206150
	SUBSCRIPT THE QUANTITY	F2206160
	C*N3*D(L) (COEF. TIMES	F2206170
	INCREMENT TIMES DIM. OF	F2206180
	LEFT SUBSCRIPT.	F2206190
	IF THESE QUANTITIES	F2206200
	ARE UNEQUAL,	F2206210
	EXIT	F2206220
		F2206230
	OBTAIN LEFT	F2206240
	SUB. DOTAG	F2206250
	CARRY BITS AGAIN.	F2206260
	TEST FOR	F2206270
	CARRY TYPE ONE	F2206280
	OR CARRY TYPE	F2206290
	TWO.	F2206300
	OBTAIN PROPER	F2206310
	TAGTAG CARRY BIT.	F2206320
	SHIFT IF NECESSARY FOR	F2206330
	CENTER SUB. AND	F2206340
	PLACE IN CARWRD.	F2206350
	EXIT	F2206360
		F2206370
		F2206380
	E.S.	F2206400
SAVE LINKAGE	PUT INDEX QUANTITY IN XRA	F2206410
	PUT NR. OF WDS IN XRB,XRC.	F2206420
	COMPUTE NR. OF WRDS	F2206430
	PLUS ORIGIN EI AND	F2206440
	INITIALIZE ADDRESSES.	F2206450
	TEST	F2206460
	FOR	F2206470
	FULL	F2206480
	TABLE.	F2206490
	DRUM OVERFLOW, GO SAVE IRA BEFORE DIAG.	F2206505
	ZERO IN ACC.	F2206510
	COMPUTE	F2206520
	ENTRY	F2206530
SELECT DRUM		F2206535
	CHECK SUM.	F2206540

	05045	0	46000	1	05101	LDA	LADDS+5,1		COPY	F2206550
	05046	0	70000	4	00000	LIST30	CPY 0,4		ENTRY	F2206560
	05047	2	00001	4	05046		TIX LIST30,4,1		AND	F2206570
	05050	0	70000	0	05062		CPY LIST60		CHECK SUM.	F2206580
	05051	0	50000	1	05101		CLA LADDS+5,1		COMPUTE	F2206590
	05052	0	40000	1	05074		ADD TSXCOM+5,1		NEXT	F2206600
	05053	0	40000	0	03765		ADD L(1)A		ENTRY	F2206610
	05054	-0	32000	0	03773		ANA ADDMSK		ADDRESS.	F2206620
	05055	0	60100	1	05101		STO LADDS+5,1			F2206630
	05056	-0	53400	4	05060		LXD LIST40,4		EXIT	F2206640
	05057	0	02000	4	00001		TRA 1,4			F2206650
A	05060	0	00000	0	00000	LIST40	HTR		E.S.	F2206660
	05061	0	00000	0	05063	LIST50	HTR		L(E1)	F2206670
A	05062	0	00000	0	00000	LIST60	HTR		E.S.	F2206680
							FOUR WORD ENTRY BLOCK			F2206690
A	05063	0	00000	0	00000	E1	HTR			F2206700
A	05064	0	00000	0	00000	E2	HTR			F2206710
A	05065	0	00000	0	00000	E3	HTR			F2206720
A	05066	0	00000	0	00000	E4	HTR			F2206730
							FIVE KEY WORDS, C(DEC)=INDEX QUANTITIES, C(ADD)=NR. OF WORDS.			F2206740
	05067	0	00005	0	00002	TSXCOM	HTR 2,0,5	ACC KEY WORD WHEN TSX TO LIST.		F2206750
	05070	0	00004	0	00003	TRASTO	HTR 3,0,4	(ADD DOES NOT INCL CHECK SUM)		F2206760
	05071	0	00003	0	00002	NAMKEY	HTR 2,0,3			F2206770
	05072	0	00002	0	00002	CHATAG	HTR 2,0,2			F2206780
	05073	0	00001	0	00004	DRMTAG	HTR 4,0,1	(ADTAG)		F2206790
							FIVE WORDS CONTAINING CURRENT TABLE ADDRESSES IN ADD. PART.			F2206800
A	05074	0	00000	0	00000	LADDS	HTR	TSXCOM - ADD OF LADDIN - LAST PLUS 1		F2206810
A	05075	0	00000	0	00000		HTR	TRASTO		F2206820
A	05076	0	00000	0	00000		HTR	NAMKEY		F2206830
A	05077	0	00000	0	00000		HTR	CHATAG		F2206840
A	05100	0	00000	0	00000		HTR	DRMTAG		F2206850
							FIVE WORDS, C(ADD)=ORIGIN, C(DEC)=LAST TABLE LOC. PLUS ONE			F2206860
	05101	0	01756	0	01302	LADDIN	HTR 706,0,1006	TSXCOM		F2206870
	05102	0	01300	0	00460		HTR 304,0,704	TRASTO		F2206880
	05103	0	02662	0	01760		HTR 1008,0,1458	NAMKEY		F2206890
	05104	0	00456	0	00002		HTR 2,0,302	CHATAG		F2206900
	05105	0	03650	0	02664		HTR 1460,0,1960	DRMTAG		F2206910
	05106	-0	63400	4	05122	BRANCH	SXD BRA45,4	IF THERE ARE RELCONS		F2206920
	05107	0	50000	0	03725		CLA NRRC	(NOT DORC) IN THE SC,		F2206930
	05110	0	10000	0	05112		TZE BRA10	USE		F2206940
	05111	0	07400	4	05534		TSX RELCON,4	RELCON.		F2206950
	05112	-0	53400	1	03726	BRA10	LXD NRDS,1	THIS ROUTINE		F2206960
	05113	3	00001	1	05116		TXH BRA30,1,1	CONDENSES		F2206970
	05114	0	07400	4	06075	BRA20	TSX 1NS00,4	DUPLICATE		F2206980
	05115	0	02000	0	05136		TRA BRA90	SUBSCRIPTS		F2206990
	05116	3	00002	1	05123	BRA30	TXH BRA50,1,2	AND		F2207000
	05117	0	50000	0	03734		CLA DUPES	TRANSFERS		F2207010
	05120	-0	10000	0	05114		TNZ BRA20	TO		F2207020
	05121	0	07400	4	06147	BRA40	TSX 2NS00,4	ROUTINES		F2207030
D	05122	-3	00000	0	05136	BRA45	TXL BRA90,0	1NS00, 2NS00, 3NS00		F2207040
	05123	-0	53400	4	03734	BRA50	LXD DUPES,4	AFTER		F2207050
	05124	3	00006	4	05114		TXH BRA20,4,6	PROCESSING,		F2207060
	05125	-3	00000	4	05135		TXL BRA80,4,0	RETURN		F2207070
	05126	3	00005	4	05132		TXH BRA60,4,5	IS TO		F2207080

05127	-3	00003	4	05132	TXL	BRA60,4,3
05130	0	50000	0	03754	CLA	L(3)
05131	0	02000	0	05133	TRA	BRA70
05132	0	50000	0	03756	CLA	L(5)
05133	0	60100	0	03731	STO	DOSUBS
05134	0	02000	0	05121	TRA	BRA40
05135	0	07400	4	06246	TSX	3NS00,4
05136	-0	53400	4	05122	LXD	BRA45,4
05137	0	02000	4	00001	TRA	1,4
05140	-0	63400	4	05204	RSR	SXD RSR20,4
05141	-0	63400	1	05205	SXD	RSR30,1
05142	0	50000	1	00741	CLA	DOTAGZ+6,1
05143	-0	32000	0	04003	ANA	BIT18
05144	-0	10000	0	05164	TNZ	RSR10
05145	0	50000	0	04003	CLA	BIT18
05146	-0	60200	1	00741	ORS	DOTAGZ+6,1
05147	0	50000	1	00733	CLA	DOTAGZ,1
05150	-0	76000	0	00003	SSM	
05151	0	60100	0	05063	STO	E1
05152	0	50000	1	00740	CLA	DOTAGZ+5,1
05153	-0	32000	0	03772	ANA	DECMSK
05154	0	77100	0	00022	ARS	18
05155	0	60100	0	05064	STO	E2
05156	0	50000	1	00743	CLA	DOTAGZ+8,1
05157	-0	32000	0	03772	ANA	DECMSK
05160	-0	50100	1	00735	ORA	DOTAGZ+2,1
05161	0	60100	0	05065	STO	E3
05162	0	50000	0	05070	CLA	TRASTO
05163	0	07400	4	05025	TSX	LIST,4
05164	-0	53400	1	05205	LXD	RSR30,1
05165	0	50000	1	00743	CLA	DOTAGZ+8,1
05166	-0	32000	0	03772	ANA	DECMSK
05167	-0	50100	0	03701	ORA	TS
05170	-0	76000	0	00003	SSM	
05171	0	60100	0	05065	STO	E3
05172	0	50000	0	03741	CLA	TL2
05173	0	77100	0	00022	ARS	18
05174	-0	50100	0	03740	ORA	TL1
05175	0	60100	0	05064	STO	E2
05176	0	50000	1	00733	CLA	DOTAGZ,1
05177	0	60100	0	05063	STO	E1
05200	0	50000	0	05070	CLA	TRASTO
05201	0	07400	4	05025	TSX	LIST,4
05202	-0	53400	4	05204	LXD	RSR20,4
05203	0	02000	4	00001	TRA	1,4
05204	0	00000	0	00000	RSR20	HTR
05205	0	00000	0	00000	RSR30	HTR
05206	-0	63400	4	05212	DRMENT	SXD DRM05,4
05207	-0	53400	2	04006	LXD	ADTXX,2
05210	-0	63400	2	05241	SXD	DRM20,2
05211	0	53400	2	04006	LXA	ADTXX,2
05212	-3	00000	0	05241	DRM05	TXL DRM20,0
05213	0	50000	2	07135	DRM10	CLA ADTAGZ,2
05214	-0	73400	1	00000	PDX	0,1

DRMENT OR  
TAG00

SAVE LINKAGE  
SAVE INDEX  
HAS COUNTER ADJUSTMENT  
INSTRUCTION BEEN ENTERED.  
IF SO, GO TO RSR10  
IF NOT, ENTER IN  
TRASTO AN ENTRY TO CAUSE  
THE COUNTER TO BE

DECREASED BY N1, WHICH  
WILL MAKE IT USEFUL AS  
AS A RESET SUB. COMB.

ENTER IN TRASTO  
AN ENTRY TO CAUSE  
THE TAG UNDER  
CONSIDERATION

TO BE RESET  
BY THE ADJUSTED  
COUNTER AT THE  
PROPER TIMES.

THIS ROUTINE  
PROCESSES THE  
ADDED TAG TABLE

OBTAIN FIRST ENTRY WORD.  
PUT INDEX IN XRA.

F2207090  
F2207100  
F2207110  
F2207120  
F2207130  
F2207140  
F2207150  
F2207160  
F2207170  
F2207180  
F2207190  
F2207200  
F2207210  
F2207220  
F2207230  
F2207240  
F2207250  
F2207260  
F2207270  
F2207280  
F2207290  
F2207300  
F2207310  
F2207320  
F2207330  
F2207340  
F2207350  
F2207360  
F2207370  
F2207380  
F2207390  
F2207400  
F2207410  
F2207420  
F2207430  
F2207440  
F2207450  
F2207460  
F2207470  
F2207480  
F2207490  
F2207500  
F2207510  
F2207520  
F2207530  
F2207540  
F2207550  
F2207560  
F2207570  
F2207580  
F2207590  
F2207600  
F2207610  
F2207620

05215	-0	32000	0	03773	ANA ADDMSK	STORE TAG	F2207630
05216	0	60100	0	03700	STO TAG	IN TAG	F2207640
05217	0	60100	0	03701	STO TS	AND TS	F2207650
05220	-0	75400	1	00000	PXD 0,1	PUT INDEX	F2207660
05221	0	60100	0	03674	STO XC	IN XC	F2207670
05222	-0	63400	2	05244	SXD DRM30,2	SAVE INDEX B.	F2207680
05223	0	50000	2	07136	CLA ADTAGZ+1,2	OBTAIN WORD TWO.	F2207690
05224	-0	12000	0	05245	TMI DRM40	TRA IF RESET ENTRY.	F2207700
05225	0	60100	0	03701	STO TS	SAVE NAME IN TS.	F2207710
05226	0	07400	4	04363	TSX DOINFO,4	USE DOINFO	F2207720
05227	0	07400	4	04520	TSX SUBCOM,4	AND	F2207730
05230	0	76100	0	00000	NOP	ROUTINES	F2207745
05231	0	07400	4	05566	TSX IDENT,4	(ERROR. GO TO DIAGNOSTIC.)	F2207750
05232	0	07400	4	00004	TSX DIAG,4 IN ORDER TO	PROCESS	F2207765
05233	0	07400	4	05106	TSX BRANCH,4	ENTRY.	F2207770
05234	0	07400	4	04614	TSX SCEND,4		F2207780
05235	0	50000	0	05073	CLA DRMTAG	ENTER RESULT IN DRMTAG.	F2207790
05236	0	07400	4	05025	TSX LIST,4		F2207800
05237	-0	53400	2	05244	LXD DRM30,2		F2207810
05240	1	77776	2	05241	TXI DRM20,2,-2		F2207820
05241	3	00000	2	05213	TXH DRM10,2		F2207830
05242	-0	53400	4	05212	LXD DRM05,4		F2207840
05243	0	02000	4	00001	TRA 1,4		F2207850
05244	0	00000	0	00000	HTR	FOR RESET ENTRY,	F2207860
05245	0	73400	4	00000	PAX 0,4	INITIALIZE CELLS	F2207870
05246	-0	32000	0	03772	ANA DECMSK	USED IN RSR ROUTINE.	F2207880
05247	0	60100	0	03740	STO TL1		F2207890
05250	-0	75400	4	00000	PXD 0,4		F2207900
05251	0	60100	0	03741	STO TL2		F2207910
05252	0	07400	4	05140	TSX RSR,4	TRA FOR NEXT ENTRY.	F2207920
05253	0	02000	0	05237	TRA DRM15		F2207930
05254	3	00000	2	05256	SUBROUTINE TAGADD		F2207940
05255	-0	75400	1	00000	TXH TAGAD1,2,0 C(IRB) EQ 1 IF NORMAL ADTAG		F2207950
05256	-0	53400	1	04006	PXD 0,1		F2207960
05257	-3	00000	1	05273	LXD ADTXX,1		F2207970
05260	3	00000	2	05274	TXL TAGAD6,1,0		F2207980
05261	0	40000	0	03700	TXH TAGAD8,2,0	XRB=1,NORMAL ADDED TAG	F2207990
05262	0	60100	1	07135	ADD TAG		F2208000
05263	0	50000	0	03673	STO ADTAGZ,1		F2208010
05264	0	56000	0	03673	CLA NEWTAG		F2208020
05265	0	60100	1	07136	LDQ NEWTAG		F2208030
05266	0	40000	0	03765	STO ADTAGZ+1,1		F2208040
05267	0	60100	0	03673	ADD L(1)A		F2208050
05270	1	77776	1	05271	STO NEWTAG		F2208060
05271	-0	63400	1	04006	TXI TAGAD2,1,-2		F2208070
05272	0	02000	4	00001	SXD ADTXX,1		F2208080
05273	0	07400	4	00004	TRA 1,4	TABLE WILL NOT HOLD ENTRY. ERROR. GO TO DIAGNOSTIC.	F2208088
05274	0	60100	1	07135	TSX DIAG,4		F2208095
05275	-0	60000	1	07136	STO ADTAGZ,1		F2208110
05276	1	77776	1	05271	STQ ADTAGZ+1,1		F2208120
					TXI TAGAD2,1,-2		F2208130
					SUBROUTINE SPC000		F2208140
05277	-0	63400	1	05371	SXD SPC115,1	SAVE INDEX OF DO TO BE SEARCHED.	F2208150
05300	-0	63400	2	05344	SXD SPC060,2	SAVE TINFOR,LIST INDICATOR	F2208160

05301	-0	63400	4	05361	SXD	SPC105,4
05302	0	60100	0	05410	STO	SPCKEY
05303	0	50000	1	00740	CLA	DOTAGZ+5,1
05304	0	62200	0	05321	STD	SPC050
05305	0	50000	1	00733	CLA	DOTAGZ,1
05306	0	73400	2	00000	PAX	0,2
05307	-0	32000	0	03772	ANA	DECMASK
05310	0	60100	0	03744	STO	NEXTA
05311	0	60100	0	03742	STO	A
05312	-0	75400	2	00000	PXD	0,2
05313	0	60100	0	03745	STO	LASTB
05314	-0	53400	1	05371	SPC010	LXD SPC115,1
05315	1	77767	1	05316	SPC020	TXI SPC040,1,-9
05316	-3	00000	1	05362	SPC040	TXL SPC110,1
05317	0	50000	1	00740	CLA	DOTAGZ+5,1
05320	-0	73400	2	00000	PDX	0,2
05321	-3	00000	2	05362	SPC050	TXL SPC110,2
05322	0	50000	1	00734	CLA	DOTAGZ+1,1
05323	0	40200	0	03735	SUB	RSYM1
05324	0	10000	0	05330	TZE	SPC053
05325	0	50000	1	00734	CLA	DOTAGZ+1,1
05326	0	40200	0	03736	SUB	RSYM2
05327	-0	10000	0	05315	TNZ	SPC020
05330	0	50000	1	00733	SPC053	CLA DOTAGZ,1
05331	0	73400	2	00000	PAX	0,2
05332	-0	32000	0	03772	ANA	DECMASK
05333	0	60100	0	03743	STO	B
05334	-0	75400	2	00000	PXD	0,2
05335	0	60100	0	03744	STO	NEXTA
05336	-0	63400	1	05371	SXD	SPC115,1
05337	-0	53400	2	05344	SPC055	LXD SPC060,2
05340	0	50000	0	03742	SPC058	CLA A
05341	0	40200	0	03743	SUB	B
05342	0	10000	0	05345	TZE	SPC065
05343	-3	00001	2	05376	TXL	SPCTIN,2,1
05344	-3	00000	0	05401	SPC060	TXL SPCSTO,0
05345	-0	53400	2	05344	SPC065	LXD SPC060,2
05346	-3	00000	2	05372	TXL	SPC120,2,0
05347	-0	53400	1	05371	SPC070	LXD SPC115,1
05350	0	50000	1	00740	CLA	DOTAGZ+5,1
05351	0	62200	0	05356	STD	SPC100
05352	1	77767	1	05353	SPC080	TXI SPC090,1,-9
05353	-3	00000	1	05362	SPC090	TXL SPC110,1
05354	0	50000	1	00740	CLA	DOTAGZ+5,1
05355	-0	73400	2	00000	PDX	0,2
05356	3	00000	2	05352	SPC100	TXH SPC080,2
05357	0	50000	0	03744	CLA	NEXTA
05360	0	60100	0	03742	STO	A
05361	-3	00000	0	05321	SPC105	TXL SPC050,0
05362	0	50000	0	03744	SPC110	CLA NEXTA
05363	0	60100	0	03742	STO	A
05364	0	50000	0	03745	CLA	LASTB
05365	0	60100	0	03743	STO	B
05366	-0	53400	2	05344	LXD	SPC060,2

SAVE TSX INDEX.  
 SAVE LIST KEY WORD  
 OBTAIN L WORD  
 INITIALIZE TEST INSTR.  
 OBTAIN ALPHABETA WRD,  
 SAVE BETA,  
 OBTAIN ALPHA ALONE  
 STO IN NEXTA  
 AND STORE IN A.  
 PUT BETA IN LASTB AND  
 BETING SEARCH FOR R2  
 OBTAIN CURRENT INDEX AND  
 GO DOWN ONE DO,IF POSSIBLE,ELSE  
 GO TO SET UP LAST INTERVAL.  
 TEST WHETHER OR NOT THIS DO  
 IS IN RANGE OF R1(DXL)  
 IF NOT,EXIT FOR LAST INTERVAL.  
 IF IN R1,IS THIS DO TO BE  
 SKIPPED. IF NOT,GO BACK TO  
 GET NEXT DO.

R2 FOUND,ARRANGE TO SKIP THIS  
 INTERVAL. USE ALPHA OF R2  
 AS B,PUT BETA OF R2 IN  
 NEXTA.  
 DO FORMULAS WITHIN R2 ARE  
 ACCOUNTED FOR AFTER SEARCH.  
 SAVE INDEX OF R2.  
 PUT TINFOR, LIST IND. IN XRB  
 FOR  
 NON EMPTY  
 INTERVALS,  
 GO TO ARRANGE TINFOR SEARCH, OR  
 TRA TO USE LIST.  
 RETURN HERE,TEST TINFOR  
 LIST IND. IF ZERO, EXIT.  
 TO SET UP NEXT INTERVAL,  
 OBTAIN INDEX OF LAST R2 AND  
 STEP DOWN IN DOTAG BY USUAL  
 PROCEDURE UNTIL SOME DO IS  
 FOUND NOT IN R2,OR UNTIL  
 DOTAG EXHAUSTED. IF DO FOUND  
 NOT IN R2,SET A AND GO TO TEST  
 IF THIS DO IS IN R1.  
 IF IT IS,NEW R2 WILL BE FOUND  
 OR EXIT MADE TO SPC110.

THIS IS SETUP FOR LAST  
 INTERVAL. FOR A,USE  
 CONTENTS OF NEXTA. FOR B,  
 USE BETA OF R1,FOUND IN  
 LASTB. OBTAIN TINFOR,STOTAG

F2208170  
 F2208180  
 F2208190  
 F2208200  
 F2208210  
 F2208220  
 F2208230  
 F2208240  
 F2208250  
 F2208260  
 F2208270  
 F2208280  
 F2208290  
 F2208300  
 F2208310  
 F2208320  
 F2208330  
 F2208340  
 F2208350  
 F2208360  
 F2208370  
 F2208380  
 F2208390  
 F2208400  
 F2208410  
 F2208420  
 F2208430  
 F2208440  
 F2208450  
 F2208460  
 F2208470  
 F2208480  
 F2208490  
 F2208500  
 F2208510  
 F2208520  
 F2208530  
 F2208540  
 F2208550  
 F2208560  
 F2208570  
 F2208580  
 F2208590  
 F2208600  
 F2208610  
 F2208620  
 F2208630  
 F2208640  
 F2208650  
 F2208660  
 F2208670  
 F2208680  
 F2208690  
 F2208700

05367 0 50000 0 03751 CLA L(0)  
 05370 0 62200 0 05344 STD SPC060  
 D 05371 -3 00000 0 05340 SPC115 TXL SPC058,0  
 05372 -0 53400 4 05361 SPC120 LXD SPC105,4  
 05373 0 02000 4 00001 TRA 1,4  
 05374 -0 53400 4 05361 SPC130 LXD SPC105,4  
 05375 0 02000 4 00002 TRA 2,4  
 05376 0 07400 4 05417 SPCTIN TSX TINFXX,4  
 05377 0 02000 0 05374 TRA SPC130  
 05400 0 02000 0 05345 TRA SPC065  
 05401 0 50000 0 03743 SPCSTO CLA B  
 05402 0 77100 0 00022 ARS 18  
 05403 0 40000 0 03742 ADD A  
 05404 0 60100 0 05063 STO E1  
 05405 0 50000 0 05410 CLA SPCKEY  
 05406 0 07400 4 05025 TSX LIST,4  
 05407 0 02000 0 05345 TRA SPC065  
 A 05410 0 00000 0 00000 SPCKEY HTR  
 SUBROUTINES TINFOR AND TINFXX  
 05411 0 50000 1 00733 TINFOR CLA DOTAGZ,1  
 05412 0 73400 1 00000 PAX 0,1  
 05413 -0 32000 0 03772 ANA DECMSK  
 05414 0 60100 0 03742 STO A  
 05415 -0 75400 1 00000 PXD 0,1  
 05416 0 60100 0 03743 STO B  
 05417 -0 53400 1 03764 TINFXX LXD L(1500,1  
 05420 0 50000 1 03670 TINF10 CLA FORTZ,1  
 05421 -0 32000 0 03772 ANA DECMSK  
 05422 0 34000 0 03742 CAS A  
 05423 0 02000 0 05430 TRA TINF40  
 05424 0 76100 0 00000 NOP  
 05425 1 77777 1 05426 TINF20 TXI TINF30,1,-1  
 D 05426 3 00000 1 05420 TINF30 TXH TINF10,1  
 05427 0 02000 4 00002 TRA 2,4  
 05430 0 34000 0 03743 TINF40 CAS B  
 05431 0 02000 4 00002 TRA 2,4  
 05432 0 76100 0 00000 NOP  
 05433 0 50000 1 03670 CLA FORTZ,1  
 05434 0 12000 0 05425 TPL TINF20  
 05435 -0 32000 0 03773 ANA ADDMSK  
 05436 0 40200 0 03700 SUB TAG  
 05437 -0 10000 0 05425 TNZ TINF20  
 05440 0 02000 4 00001 TRA 1,4  
 INSTR PLUS ONE. XRA CONTAINS INDEX IN FORTAG OF FIRST TAG  
 FOUND  
 SUBROUTINE TRAWRD  
 05441 -0 63400 4 05470 TRAWRD SXD TRAW65,4  
 05442 0 50000 0 03751 CLA L(0)  
 05443 0 60100 0 03747 STO TRABIT  
 05444 0 50000 1 00740 CLA DOTAGZ+5,1  
 05445 0 62200 0 05454 STD TRAW30  
 05446 0 50000 1 00742 TRAW10 CLA DOTAGZ+7,1  
 05447 -0 60200 0 03747 ORS TRABIT

IND,AND SET LOCATION OF  
 INDICATOR TO ZERO. GO TO  
 TINFOR OR TRASTO.  
 EXIT,ALL STORES DONE,OR,  
 SEARCH MADE,T NOT FOUND.  
 EXIT,T FOUND  
 IN SOME INTERVAL  
 GO TO SEARCH FORTAG  
 T FOUND  
 T NOT FOUND  
 FOR TRASTO,E2 AND E3 ARE  
 ALREADY SET UP. COLLECT  
 A AND B INTO E1 WORD,  
 PUT TRASTO INDICATOR IN  
 ACC. AND  
 TSX TO LISTING ROUTINE.  
 ON RETURN,GO TO TEST FINISH.  
 STORAGE FOR TABLEKEY  
 C(XRA)=INDEX OF DR TO BE  
 SEARCHED. SEPARATE ALPHA  
 AND BETA  
 AND STORE IN A  
 B  
 PUT MAX FORTAG INDEX IN XRA  
 OBTAIN FORTAG ENTRY  
 RETAIN FORMULA NUMBER ONLY  
 COMPARE ALPHA AND FORMULA NR.  
 FOR. NR. GREATER THAN ALPHA. TRA.  
 C(A) MAY BE SOME BETA FROM SPC  
 FOR.NR. LESS THAN ALPHA. GO  
 BACK FOR NEXT FORTAG ENTRY  
 IF POSSIBLE. OTHERWISE,  
 RETURN TO CALLING INSTR PLUS TWO.  
 COMPARE FOR. NR. WITH BETA  
 FOR. NR. GREATER THAN BETA,EXIT.  
 FOR. NR. EQUAL TO OR  
 LESS THAN BETA,OBTAIN FORTAG  
 TAG AND COMPARE WITH SEARCH TAG.  
 I.F. NOT EQUAL,GO BACK FOR NEXT TAG  
 IF EQUAL,RETURN TO CALLING  
 OBTAIN T2 WORD  
 OR INTO TRABIT

F2208710  
 F2208720  
 F2208730  
 F2208740  
 F2208750  
 F2208760  
 F2208770  
 F2208780  
 F2208790  
 F2208800  
 F2208810  
 F2208820  
 F2208830  
 F2208840  
 F2208850  
 F2208860  
 F2208870  
 F2208880  
 F2208890  
 F2208900  
 F2208910  
 F2208920  
 F2208930  
 F2208940  
 F2208950  
 F2208960  
 F2208970  
 F2208980  
 F2208990  
 F2209000  
 F2209010  
 F2209020  
 F2209030  
 F2209040  
 F2209050  
 F2209060  
 F2209070  
 F2209080  
 F2209090  
 F2209100  
 F2209110  
 F2209120  
 F2209130  
 F2209140  
 F2209150  
 F2209160  
 F2209170  
 F2209180  
 F2209190  
 F2209200  
 F2209210  
 F2209220  
 F2209230  
 F2209240



	05450	1	77767	1	05451		TXI	TRAW20,1,-9		TAKE NEXT DO	F2209250
D	05451	-3	00000	1	05471	TRAW20	TXL	TRAW70,1	IF NONE, EXIT. (DEC HAS DOTAG IX)		F2209260
	05452	0	50000	1	00740		CLA	DOTAGZ+5,1	OBTAIN L WORD		F2209270
	05453	-0	73400	4	00000		PDX	0,4	PUT L IN XRC.		F2209280
D	05454	-3	00000	4	05471	TRAW30	TXL	TRAW70,4	EXIT IF DO IS NOT IN RANGE R1		F2209290
	05455	-3	00001	2	05446		TXL	TRAW10,2,1	IF COMPLETE TEST,GO BACK		F2209300
	05456	0	50000	1	00734	TRAW35	CLA	DOTAGZ+1,1	IF INCOMPLETE TEST,IS THIS A		F2209310
	05457	0	40200	0	03736		SUB	RSYM2	DO TO BE SKIPPED		F2209320
	05460	-0	10000	0	05446		TNZ	TRAW10	IF NOT, GO BACK		F2209330
	05461	0	50000	1	00740		CLA	DOTAGZ+5,1	THIS DO IS TO BE SKIPPED		F2209340
	05462	0	62200	0	05467		STD	TRAW60	PUT LEVEL OF THIS DO IN TEST INSTR.		F2209350
	05463	1	77767	1	05464	TRAW40	TXI	TRAW50,1,-9	TAKE NEXT DO IF ANY		F2209360
D	05464	-3	00000	1	05471	TRAW50	TXL	TRAW70,1	IF NOT, EXIT. OTHERWISE, (DEC HAS DOTAG IX)		F2209370
	05465	0	50000	1	00740		CLA	DOTAGZ+5,1	OBTAIN L WORD		F2209380
	05466	-0	73400	4	00000		PDX	0,4	PUT L IN XRC		F2209390
D	05467	3	00000	4	05463	TRAW60	TXH	TRAW40,4	IF DO IS IN RANGE OF R2,GO BACK.		F2209400
D	05470	-3	00000	0	05454	TRAW65	TXL	TRAW30,0	OTHERWISE,GO TO TRAW30		F2209410
	05471	-0	53400	4	05470	TRAW70	LXD	TRAW65,4			F2209420
	05472	0	50000	0	03761		CLA	L(36)	OBTAIN 36 IN DECREMENT		F2209430
	05473	0	40200	0	03741		SUB	TL2	36-TL2		F2209440
	05474	0	77100	0	00022		ARS	18	IN ADDRESS		F2209450
	05475	0	62100	0	05505		STA	TRAW90	INITIALIZE SHIFT		F2209460
	05476	0	50000	0	03741		CLA	TL2	OBTAIN TL2		F2209470
	05477	0	40200	0	03740		SUB	TL1	TL2-TL1		F2209480
	05500	0	77100	0	00022		ARS	18	IN ADDRESS		F2209490
	05501	0	62100	0	05504		STA	TRAW80	INITIALIZE SHIFT		F2209500
	05502	0	50000	0	03751		CLA	L(0)	ACC CONTAINS ZERO		F2209510
A	05503	0	56000	0	03771		LDO	35ONES	MQ CONTAINS ALL ONES		F2209520
A	05504	0	76300	0	00000	TRAW80	LLS		PUT TL2-TL1 ONES IN ACC		F2209530
	05505	0	76700	0	00000	TRAW90	ALS		POSITION ONES IN ACC		F2209540
	05506	-0	32000	0	03747		ANA	TRABIT	AND IN TRANSFER BITS		F2209550
	05507	0	02000	4	00001		TRA	1,4	GO BACK TO CALLING INSTR PLUS ONE.		F2209560
									SUBROUTINES TAGENT AND TETAPE		F2209570
	05510	-0	53400	1	04010	TAGENT	LXD	TAGXX,1	THIS ROUTINE ENTERS		F2209580
	05511	3	00000	1	05513		TXH	TE10,1,0	ONE ENTRY IN TAGZ,		F2209590
	05512	0	07400	2	05522		TSX	TETAPE,2	IF POSSIBLE. IF NOT,		F2209600
	05513	-0	53400	2	03755	TE10	LXD	L(4),2	TRA TO TETAPE.		F2209610
	05514	0	50000	2	05067	TE20	CLA	E1+4,2			F2209620
	05515	0	60100	1	06771		STO	TAGZ,1			F2209630
	05516	1	77777	1	05517		TXI	TE30,1,-1			F2209640
	05517	2	00001	2	05514	TE30	TIX	TE20,2,1			F2209650
	05520	-0	63400	1	04010		SXD	TAGXX,1			F2209660
	05521	0	02000	4	00001		TRA	1,4			F2209670
	05522	0	76600	0	00224	TETAPE	WRS	ATAPE	THIS ROUTINE		F2209680
	05523	-0	53400	1	04010		LXD	TAGXX,1	ENTERS ALL THE VALID		F2209690
	05524	-0	63400	1	05530		SXD	TE50,1	ENTRIES IN TAGZ ON		F2209700
	05525	0	53400	1	04010		LXA	TAGXX,1	THE TAPE		F2209710
	05526	0	70000	1	06771	TE40	CPY	TAGZ,1	THE LAST ENTRY ON TAPE		F2209720
	05527	1	77777	1	05530		TXI	TE50,1,-1	AFTER EACH NEST IS		F2209730
	05530	3	00000	1	05526	TE50	TXH	TE40,1	AN ENTRY OF 4 WDS OF 35 ONES		F2209740
	05531	0	53400	1	04010		LXA	TAGXX,1			F2209750
	05532	-0	63400	1	04010		SXD	TAGXX,1			F2209760
	05533	0	02000	2	00001		TRA	1,2			F2209770
									ROUTINE RELCON PINGPONGS INSTRUCTIONS		F2209780

05534	-0	53400	2	03753	RELCON	LXD	L(2),2	INITIALIZE SWITCH	F2209790
05535	-0	53400	4	03756	REL10	LXD	L(5),4	INITIALIZE ERROR COUNTER.	F2209805
05536	-0	53400	1	05565	REL20	LXD	RELWDS,1	PUT NR OF DRM WDS IN XRA	F2209810
05537	0	76200	0	00301		RDS	PPDRM	LOCATE DRUM ADDRESS	F2209820
05540	0	46000	2	05566		LDA	RELDRA+2,2	LOCATE PROPER DRM ADDRESS	F2209830
05541	0	70000	1	06566	REL30	CPY	CORESZ,1	READ STATE B, OR A, INTO	F2209840
05542	2	00001	1	05541		TIX	REL30,1,1	STORAGE	F2209850
05543	-0	53400	1	05565		LXD	RELWDS,1	LOAD XRA WITH NR OF DRM WDS	F2209860
05544	-0	75400	0	00000		PXD	0,0	COMPUTE	F2209870
05545	0	36100	1	06566	REL40	ACL	CORESZ,1	CHECK	F2209880
05546	2	00001	1	05545		TIX	REL40,1,1	SUM	F2209890
05547	0	60200	0	05561		SLW	REL80	AND	F2209900
05550	0	50000	0	05561		CLA	REL80	COMPARE.	F2209910
05551	0	40200	2	05564		SUB	RELCS+2,2	IF NOT ZERO,	F2209920
05552	-0	10000	0	05557		TNZ	REL70	GO TO ERROR ROUTINE.	F2209930
05553	-3	00001	2	05112	REL50	TXL	BRA10,2,1	IF STATE A, RETURN TO BRANCH.	F2209940
05554	-3	00000	0	05566	REL60	TXL	CORES,0	AND TRA TO REL ROUTINE	F2209950
05555	-0	53400	2	03752	RELEND	LXD	L(1),2		F2209960
05556	0	02000	0	05535		TRA	REL10	GO TO READ IN STATE A.	F2209970
05557	2	00001	4	05536	REL70	TIX	REL20,4,1	COUNT IN ERROR COUNTER AND RETURN	F2209980
05560	0	07400	4	00004		TSX	DIAG,4	ERROR. GO TO DIAGNOSTIC.	F2209995
05561	0	00000	0	00000	REL80	HTR		E.S.	F2210000
05562	+103075525444				RELCS	OCT	103075525444	CHECK SUM, STATE B, RELCON	F2210014
05563	-246744643200					OCT	-246744643200	CHECK SUM STATE A, NORMAL	F2210024
05564	+000000001000				RELDRA	OCT	1000	DRUM ADDRESS, STATE B.	F2210030
05565	+001000000000					OCT	10000000000	NR. WDS, DRUM ADDRESS STATE A.	F2210040
				05566		ORG	2934		F2210050
								MASTER RECORD CARD = FN032	F2210055
05566	-0	63400	4	05622	IDENT	SXD	ID075,4	SAVE INDEX	F2210060
05567	-0	53400	1	03760		LXD	L(20),1	INITIALIZE IDENT STORAGE.	F2210070
05570	0	50000	0	03751		CLA	L(0)	TO ZERO	F2210080
05571	0	60100	0	06027		STO	IDES		F2210090
05572	0	60100	1	03740	ID010	STO	X1+20,1		F2210100
05573	2	00001	1	05572		TIX	ID010,1,1		F2210110
05574	0	50000	0	03771		CLA	35ONES	INITIALIZE	F2210120
05575	0	60100	0	03723		STO	LL	LOW LEVEL	F2210130
05576	-0	53400	2	03751		LXD	L(0),2	COUNT THE SUBSCRIPT	F2210140
05577	-0	53400	4	03756		LXD	L(5),4	SYMBOLS.	F2210150
05600	0	50000	4	03712	ID020	CLA	S1+5,4	STORE COUNT IN	F2210160
05601	0	10000	0	05603		TZE	ID030	NRSUBS, AND ALSO IN	F2210170
05602	1	00001	2	05603		TXI	ID030,2,1	NRRC, WHICH IS THE	F2210180
05603	2	00002	4	05600	ID030	TIX	ID020,4,2	COUNT OF REL. CON.	F2210190
05604	-0	75400	2	00000		PXD	0,2	SUBSCRIPTS. DO SUBS ARE	F2210200
05605	0	60100	0	03725		STO	NRRC	SUBTRACTED OUT LATER.	F2210210
05606	0	60100	0	03724		STO	NRSUBS		F2210220
05607	-0	53400	1	03674		LXD	XC,1	COMPARE EACH SYMBOL	F2210230
05610	-0	53400	2	03675		LXD	LC,2	IN THE SUB. COMB. WITH	F2210240
05611	0	76000	0	00141		PSE	TL	THE SYMBOL OF EACH	F2210250
05612	0	50000	1	00734	ID050	CLA	DOTAGZ+1,1	DO IN THE SUB NEST.	F2210260
05613	-0	53400	4	03756		LXD	L(5),4	WHEN EQUALITY IS	F2210270
05614	0	34000	4	03712	ID060	CAS	S1+5,4	FOUND, GO TO ID120.	F2210280
05615	0	02000	0	05617		TRA	ID070	IF THE CURRENT DO	F2210290
05616	0	02000	0	05632		TRA	ID120	SYMBOL IS NOT FOUND,	F2210300
05617	2	00002	4	05614	ID070	TIX	ID060,4,2	MAKE EXIT FROM ID410	F2210310

	05620	-0	76000	0	00141		MSE	TL
	05621	0	02000	0	05623		TRA	ID080
D	05622	-3	00000	0	06025	ID075	TXL	ID410,0
	05623	-3	00001	2	05646	ID080	TXL	ID150,2,1
	05624	1	00011	1	05625	ID090	TXI	ID100,1,9
	05625	0	50000	1	00740	ID100	CLA	DOTAGZ+5,1
	05626	0	62200	0	05627		STD	ID110
D	05627	-3	00000	2	05624	ID110	TXL	ID090,2
	05630	-0	73400	2	00000		PDX	0,2
	05631	0	02000	0	05612		TRA	ID050
	05632	-0	76000	0	00141	ID120	MSE	TL
	05633	0	76100	0	00000		NOP	
	05634	-0	75400	1	00000		PXD	0,1
	05635	0	60100	4	03721		STO	X1+5,4
	05636	-0	75400	2	00000		PXD	0,2
	05637	0	60100	4	03722		STO	L1+5,4
	05640	0	50000	0	03725		CLA	NRRC
	05641	0	40200	0	03752		SUB	L(1)
	05642	0	60100	0	03725		STO	NRRC
	05643	0	10000	0	05646		TZE	ID150
	05644	0	50000	1	00734		CLA	DOTAGZ+1,1
	05645	0	02000	0	05617		TRA	ID070
	05646	0	76600	0	00333	ID150	IOD	
	05647	0	50000	0	03714		CLA	X1
	05650	0	56000	0	03716		LDQ	X2
	05651	0	04000	0	05653		TLQ	PT041
	05652	0	50000	0	03716		CLA	X2
	05653	0	56000	0	03720	PT041	LDQ	X3
	05654	0	04000	0	05656		TLQ	PT042
	05655	0	50000	0	03720		CLA	X3
	05656	0	60100	0	05662	PT042	STO	PT043
	05657	-0	53400	4	03757		LXD	L(6),4
	05660	-0	53400	3	03754		LXD	L(3),3
	05661	0	02000	0	05663		TRA	ID160
A	05662	0	00000	0	00000	PT043	HTR	
	05663	0	50000	1	03710	ID160	CLA	S1+3,1
	05664	0	10000	0	05671		TZE	ID170
	05665	0	40200	2	03712		SUB	S1+5,2
	05666	-0	10000	0	05671		TNZ	ID170
	05667	-0	75400	4	00000		PXD	0,4
	05670	-0	60200	0	03734		ORS	DUPES
	05671	2	00001	4	05672	ID170	TIX	ID180,4,1
	05672	2	00002	2	05663	ID180	TIX	ID160,2,2
	05673	2	00001	4	05674		TIX	ID190,4,1
	05674	2	00002	1	05663	ID190	TIX	ID160,1,2
	05675	-0	53400	2	03725		LXD	NRRC,2
	05676	-3	00000	2	05723		TXL	ID300,2,0
	05677	-3	00001	2	05704		TXL	ID195,2,1
	05700	0	50000	0	03734		CLA	DUPES
	05701	0	60100	0	03733		STO	RCDUP
	05702	0	50000	0	03751		CLA	L(0)
	05703	0	60100	0	03734		STO	DUPES
	05704	-0	53400	4	03756	ID195	LXD	L(5),4
	05705	0	50000	4	03722	ID200	CLA	L1+5,4

THESE INSTRUCTIONS  
FIND THE NEXT BACK  
SUB NEST DO FORMULA,  
AND RETURN CONTROL  
TO ID050.

TURN OFF TEST LIGHT  
AND  
ESTABLISH  
INDEX  
AND  
LEVEL FOR THIS SUBSCRIPT.  
SUBTRACT ONE FROM  
NRRC. THIS WORD  
CONTAINS INITIALLY  
THE NUMBER OF  
SUBSCRIPTS IN THE  
COMBINATION.

THIS - EDRECNO FN 265001 P463  
ROUTINE FN265002  
LOOKS FOR THE  
OUTERMOST  
DOTAG  
OF A  
SUBSCRIPT  
COMBINATION.

RETURN

WHICH CAN BE ASSIGNED  
HAVE BEEN ASSIGNED.  
THIS  
ROUTINE  
MAKES UP THE  
DUPLICATE  
SUBSCRIPT  
WORD.

IF THERE IS MORE  
THAN ONE RELCON,  
AND IF THERE ARE  
DUPLICATES, THEN THE  
RELCONS ARE DUPLICATES.  
OTHERWISE, THE DOSUBS  
ARE DUPLICATES.  
IF THERE ARE RELCONS,  
THERE ARE NOT MORE

F2210320  
F2210330  
F2210340  
F2210350  
F2210360  
F2210370  
F2210380  
F2210390  
F2210400  
F2210410  
F2210420  
F2210430  
F2210440  
F2210450  
F2210460  
F2210470  
F2210480  
F2210490  
F2210500  
F2210510  
F2210520  
F2210530  
F2210540  
F2210550  
F2210560  
F2210570  
F2210580  
F2210590  
F2210600  
F2210610  
F2210620  
F2210630  
F2210640  
F2210650  
F2210660  
F2210670  
F2210680  
F2210690  
F2210700  
F2210710  
F2210720  
F2210730  
F2210740  
F2210750  
F2210760  
F2210770  
F2210780  
F2210790  
F2210800  
F2210810  
F2210820  
F2210830  
F2210840  
F2210850

05706	-0	10000	0	05720	TNZ	ID210
05707	0	50000	4	03712	CLA	S1+5,4
05710	0	10000	0	05720	TZE	ID210
05711	-0	75400	4	00000	PXD	0,4
05712	-3	00001	4	05714	TXL	ID205,4,1
05713	0	40200	0	03752	SUB	L(1)
05714	-0	60200	0	03730	ORS	RCSUBS
05715	0	50000	4	03712	CLA	S1+5,4
05716	-2	00001	2	05722	TNX	ID220,2,1
05717	0	60100	0	03736	STO	RSYM2
05720	2	00002	4	05705	TIX	ID200,4,2
05721	0	02000	0	05723	TRA	ID300
05722	0	60100	0	03735	STO	RSYM1
05723	-0	53400	4	03756	LXD	L(5),4
05724	0	50000	4	03721	CLA	X1+5,4
05725	0	10000	0	05740	TZE	ID340
05726	-0	73400	1	00000	PDX	0,1
05727	-0	53400	2	03754	LXD	L(3),2
05730	0	50000	1	00741	CLA	DOTAGZ+6,1
05731	-0	32000	0	03773	ANA	ADDMSK
05732	0	76700	0	00022	ALS	18
05733	0	34000	0	06027	CAS	IDES
05734	0	60100	0	06027	STO	IDES
05735	0	76100	0	00000	NOP	
05736	2	00001	1	05737	TIX	ID330,1,1
05737	2	00001	2	05730	TIX	ID320,2,1
05740	2	00002	4	05724	TIX	ID310,4,2
05741	-0	53400	4	03756	LXD	L(5),4
05742	-0	53400	2	03751	LXD	L(0),2
05743	0	50000	4	03722	CLA	L1+5,4
05744	0	10000	0	06000	TZE	ID380
05745	0	34000	0	06027	CAS	IDES
05746	0	02000	0	05764	TRA	ID370
05747	0	76100	0	00000	NOP	
05750	-0	75400	4	00000	PXD	0,4
05751	-3	00001	4	05753	TXL	ID360,4,1
05752	0	40200	0	03752	SUB	L(1)
05753	-0	60200	0	03727	ORS	DORC
05754	0	50000	4	03721	CLA	X1+5,4
05755	-0	73400	1	00000	PDX	0,1
05756	0	50000	0	04000	CLA	BITONE
05757	-0	60200	1	00740	ORS	DOTAGZ+5,1
05760	-0	75400	0	00000	PXD	0,0
05761	0	60100	4	03722	STO	L1+5,4
05762	0	60100	4	03721	STO	X1+5,4
05763	0	02000	0	06000	TRA	ID380
05764	0	34000	0	03723	CAS	LL
05765	0	02000	0	05773	TRA	ID372
05766	0	02000	0	05773	TRA	ID372
05767	0	60100	0	03723	STO	LL
05770	0	50000	4	03721	CLA	X1+5,4
05771	0	60100	0	03722	STO	XL
05772	-0	63400	4	03750	SXD	LOWPOS,4
05773	-0	75400	4	00000	PXD	0,4

THAN TWO.  
PUT THEIR SYMBOLS  
IN PSYM1 AND RSYM2,  
AND PUT BITS IN THE  
PROPER POSITIONS OF  
RCSUBS.

FOR ALL DO SUBS,  
SELECT THE  
MAXIMUM OF ALL  
VARAIBLE N LEVEL  
OF DEFINITION  
QUANTITIES.

COMPARE THIS MAXIMUM

WITH EACH SUBSCRIPT  
LEVEL, THOSE SUBSCRIPT  
LEVELS LESS THAN OR  
EQUAL TO THE MAXIMUM  
LEVEL OF DEFINITION  
QUANTITY WILL BE TREATED  
AS REL. CONS.  
INDICATE THIS CONDITION  
IN THE DORC WORD.

MAKE INDICATION FOR STORED COUNTER  
FOR THIS DORC.  
CLEAR X(N) AND L(N)  
SINCE THEY ARE NO LONGER DOSUBS.

FOR TRUE DO SUBS.  
ESTABLISH LOW LEVEL  
AND LOW INDEX. LOW  
LEVEL WORD WAS  
INITIALIZED TO  
35ONES.

PUT BITS IN

F2210860  
F2210870  
F2210880  
F2210890  
F2210900  
F2210910  
F2210920  
F2210930  
F2210940  
F2210950  
F2210960  
F2210970  
F2210980  
F2210990  
F2211000  
F2211010  
F2211020  
F2211030  
F2211040  
F2211050  
F2211060  
F2211070  
F2211080  
F2211090  
F2211100  
F2211110  
F2211120  
F2211130  
F2211140  
F2211150  
F2211160  
F2211170  
F2211180  
F2211190  
F2211200  
F2211210  
F2211220  
F2211230  
F2211240  
F2211250  
F2211260  
F2211270  
F2211280  
F2211290  
F2211300  
F2211310  
F2211320  
F2211330  
F2211340  
F2211350  
F2211360  
F2211370  
F2211380  
F2211390

```

05774 -3 00001 4 05776 TXL ID375,4,1
05775 0 40200 0 03752 SUB L(1)
05776 -0 60200 0 03731 ID375 ORS DOSUBS
05777 1 00001 2 06000 TXI ID380,2,1
06000 2 00002 4 05743 ID380 TIX ID350,4,2
06001 -0 75400 2 00000 PXD 0,2
06002 0 60100 0 03726 STO NRDS
06003 -0 10000 0 06005 TNZ ID385
06004 0 07400 4 00004 TSX DIAG,4
06005 -0 53400 2 03725 ID385 LXN NRRC,2
06006 -3 00000 2 06023 TXL ID400,2,0
06007 -0 53400 4 03752 LXN L(1),4
06010 0 50000 0 03733 CLA RCDUP
06011 -0 10000 0 06021 TNZ ID395
06012 0 50000 0 03734 CLA DUPES
06013 -0 10000 0 06021 TNZ ID395
06014 -3 00001 2 06016 TXL ID390,2,1
06015 1 00002 4 06021 TXI ID395,4,2
06016 -0 53400 2 03726 ID390 LXN NRDS,2
06017 -3 00001 2 06021 TXL ID395,2,1
06020 1 00001 4 06021 TXI ID395,4,1
06021 -0 75400 4 00000 ID395 PXD 0,4
06022 0 60100 0 03732 STO DELTA
06023 -0 53400 4 05622 ID400 LXN ID075,4
06024 0 02000 4 00002 TRA 2,4
06025 -0 53400 4 05622 ID410 LXN ID075,4
06026 0 02000 4 00001 TRA 1,4
06027 0 00000 0 00000 ID5 HTR
06030 -0 63400 4 06036 NAME SXN NAM10,4
06031 0 50000 0 03700 CLA TAG
06032 0 60100 0 03701 PAT05 STO TS
06033 -0 53400 1 05662 LXN PT043,1
06034 0 07400 4 05411 RET01 TSX TINF0R,4
06035 0 02000 0 06037 TRA NAM20
06036 -3 00000 0 06073 NAM10 TXL NAM50
06037 0 50000 0 03673 NAM20 CLA NEWTAG
06040 0 60100 0 03701 STO TS
06041 0 40000 0 03765 ADD L(1)A
06042 0 60100 0 03673 STO NEWTAG
06043 -0 53400 1 03674 LXN XC,1
06044 0 50000 1 00733 CLA DOTAGZ,1
06045 0 60100 0 05063 STO E1
06046 0 50000 0 03700 CLA TAG
06047 0 76700 0 00022 ALS 18
06050 0 40000 0 03701 ADD TS
06051 0 60100 0 05064 STO E2
06052 0 50000 0 05072 CLA CHATAG
06053 -0 53400 4 03725 LXN NRRC,4
06054 3 00000 4 06057 TXH NAM30,4,0
06055 0 07400 4 05025 TSX LIST,4
06056 0 02000 0 06061 TRA NAM40
06057 -0 53400 2 03753 NAM30 LXN L(2),2
06060 0 07400 4 05277 TSX SPC000,4
06061 -0 53400 1 04011 NAM40 LXN NAMXX,1

```

PROPER POSITIONS  
OF DOSUBS  
WORD

CHECK TO SEE THAT  
AT LEAST ONE SUBSCR IS A DOSUB  
NO DOSUB WAS PRECLUDED. ERROR. GO TO DIAGNOSTIC.

THESE INSTRUCTIONS  
COMPUTE DELTA.  
IF ONE DISTINCT DOSUB,  
ONE DISTINCT RELCON,  
DELTA IS ONE.  
IF TWO DISTINCT DOSUBS,  
ONE RELCON, DELTA IS TWO.  
IF ONE DOSUB, TWO  
DISTINCT RELCONS,  
DELTA IS THREE.  
FOR ALL OTHER CASES,  
DELTA IS ZERO.

EXIT,  
SUBCOM USED.  
EXIT,  
SUBCOMB NOT USED.

SAVE LINKAGE  
PUT TAU IN TS,

P463

SEARCH RANGE OF XL  
(FOUND) FOR NEGATIVE TAG.  
NOT FOUND  
OBTAIN  
NEW  
NAME

ARRANGE  
ENTRY BLOCK  
FOR CHATAG  
ENTRY.

USE LIST OR SPC000,  
DEPENDING UPON  
WHETHER OR NOT  
WORD NRRC IS ZERO. I.e., ARE THERE RELCONS.  
NO TINF0R SEARCH REQUIRED.

ENTER

F2211400  
F2211410  
F2211420  
F2211430  
F2211440  
F2211450  
F2211460  
F2211472  
F2211485  
F2211490  
F2211500  
F2211510  
F2211520  
F2211530  
F2211540  
F2211550  
F2211560  
F2211570  
F2211580  
F2211590  
F2211600  
F2211610  
F2211620  
F2211630  
F2211640  
F2211650  
F2211660  
F2211670  
F2211680  
F2211690  
F2211700  
F2211710  
F2211720  
F2211730  
F2211740  
F2211750  
F2211760  
F2211770  
F2211780  
F2211790  
F2211800  
F2211810  
F2211820  
F2211830  
F2211840  
F2211850  
F2211860  
F2211870  
F2211880  
F2211890  
F2211900  
F2211910  
F2211920  
F2211930

06062	3	00000	1	06064	TXH NAM44,1,0	ALPHA,	F2211940
06063	0	07400	4	00004	TSX DIAG,4 TAG,	(NAME TABLE FULL. ERROR. GO TO DIAGNOSTIC.)	F2211955
06064	0	50000	0	03676	NAM44 CLA ALPHA	AND	F2211960
06065	-0	50100	0	03700	ORA TAG	NAME	F2211970
06066	0	60100	1	07301	STO NAMZ,1	IN	F2211980
06067	0	50000	0	03701	CLA TS	NAME	F2211990
06070	0	60100	1	07302	STO NAMZ+1,1	TABLE	F2212000
06071	1	77776	1	06072	TXI NAM48,1,-2		F2212010
06072	-0	63400	1	04011	NAM48 SXD NAMXX,1		F2212020
06073	-0	53400	4	06036	NAM50 LXD NAM10,4	EXIT	F2212030
06074	0	02000	4	00001	TRA 1,4		F2212040
					1NS00 PROCESSES SC CONTAINING ONE DISTINCT INDEXED SUBSCRIPT.		F2212050
06075	-0	63400	4	06146	1NS00 SXD 1NS20,4	SAVE LINKAGE	F2212060
06076	-0	53400	1	03674	LXD XC,1		F2212070
06077	0	50000	0	04001	CLA BITTWO	IF A COUNTER HAS	F2212080
06100	-0	32000	1	00741	ANA DOTAGZ+6,1	BEEN FOUND,	F2212090
06101	-0	10000	0	06142	TNZ 1NS10	GO TO 1NS10	F2212100
06102	-0	53400	4	03731	LXD DOSUBS,4	SKIP TO 1NS10	F2212110
06103	-3	00003	4	06142	TXL 1NS10,4,3	IF NOT FIRST POSITION.	F2212120
06104	3	00004	4	06142	TXH 1NS10,4,4		F2212130
06105	0	50000	0	03730	CLA RCSUBS	IF ANY RELCONS,	F2212140
06106	-0	50100	0	03727	ORA DORC	GO TO 1NS10	F2212150
06107	-0	10000	0	06142	TNZ 1NS10		F2212160
06110	-0	53400	4	03704	LXD C1,4	IF C1 IS NOT ONE,	F2212170
06111	3	00001	4	06142	TXH 1NS10,4,1	GO TO 1NS10	F2212180
06112	0	50000	0	03773	CLA ADDMSK	THIS SUB. COMB. WILL SERVE	F2212190
06113	0	32000	1	00743	ANS DOTAGZ+8,1	AS COUNTER AND TEST. ENTER IN	F2212200
06114	0	50000	0	03701	CLA TS	DOTAGZ+8.	F2212210
06115	0	76700	0	00022	ALS 18	INDICATE	F2212220
06116	-0	50100	0	03770	ORA L(MZ)	BEST TEST	F2212230
06117	-0	60200	1	00743	ORS DOTAGZ+8,1	FOUND.	F2212240
06120	0	50000	0	04001	CLA BITTWO	INDICATE COUNTER FOUND.	F2212250
06121	-0	60200	1	00741	ORS DOTAGZ+6,1		F2212260
06122	-0	50000	0	03770	CAL L(MZ)	SET CARWRD NEGATIVE.	F2212270
06123	-0	60200	0	03737	ORS CARWRD	TEST BITONE OF L WORD.	F2212280
06124	0	50000	0	04000	CLA BITONE	IF ONE, SKIP TRASTO	F2212290
06125	-0	32000	1	00740	ANA DOTAGZ+5,1	TEST.	F2212300
06126	-0	10000	0	06142	TNZ 1NS10		F2212310
06127	0	50000	1	00740	1NS05 CLA DOTAGZ+5,1	TEST TO SEE IF TRANSFER	F2212320
06130	0	12000	0	06142	TPL 1NS10	STORE NECESSARY.	F2212330
06131	0	50000	1	00733	CLA DOTAGZ,1	MAKE TRASTO ENTRY	F2212340
06132	0	60100	0	05063	STO E1	TO STORE COUNTER	F2212350
06133	0	50000	1	00734	CLA DOTAGZ+1,1	IN LOCATION OF SYMBOL.	F2212360
06134	0	60100	0	05064	STO E2		F2212370
06135	0	50000	0	03675	CLA LC		F2212380
06136	-0	50100	0	03701	ORA TS		F2212390
06137	0	60100	0	05065	STO E3		F2212400
06140	0	50000	0	05070	CLA TRASTO		F2212410
06141	0	07400	4	05025	TSX LIST,4		F2212420
06142	0	50000	0	03757	1NS10 CLA L(6)	ENTER	F2212430
06143	0	60100	0	03703	STO GROUP	GROUP NR.	F2212440
06144	-0	53400	4	06146	LXD 1NS20,4	AND EXIT.	F2212450
06145	0	02000	4	00001	TRA 1,4		F2212460
06146	0	00000	0	00000	1NS20 HTR		F2212470

2NS00 ROUTINE PROCESSES SC WITH TWO DISTINCT INDEXED  
SUBSCRIPTS.

06147 -0 63400 4 06157 2NS00 SXD 2NS25,4  
06150 -0 53400 1 03731 2NS10 LXD DOSUBS,1  
06151 -0 53400 2 03753 LXD L(2),2  
06152 0 50000 0 03715 CLA L1  
06153 3 00003 1 06155 TXH 2NS20,1,3  
06154 0 50000 0 03717 CLA L2  
06155 -3 00005 1 06160 2NS20 TXL 2NS30,1,5  
06156 0 40200 0 03717 SUB L2  
D 06157 -3 00000 0 06161 2NS25 TXL 2NS40,0  
06160 0 40200 0 03721 2NS30 SUB L3  
06161 -0 12000 0 06174 2NS40 TMI 2NS70  
06162 0 40200 0 03752 SUB L(1)  
06163 -0 10000 0 06172 TNZ 2NS60  
06164 -3 00003 1 06167 TXL 2NS50,1,3  
06165 -3 00005 1 06172 TXL 2NS60,1,5  
06166 1 00002 2 06167 TXI 2NS50,2,2  
06167 -0 53400 4 03734 2NS50 LXD DUPES,4  
06170 3 00000 4 06172 TXH 2NS60,4,0  
06171 0 07400 4 04754 TSX CARRY,4  
D 06172 0 50000 0 03752 2NS60 CLA L(1)  
06173 -3 00000 0 06175 2NS65 TXL 2NS80,0  
06174 0 50000 0 03757 2NS70 CLA L(6)  
06175 0 60100 0 03703 2NS80 STO GROUP  
06176 -0 73400 4 00000 PDX 0,4  
06177 -0 53400 2 03731 LXD DOSUBS,2  
06200 0 50000 0 03715 CLA L1  
06201 3 00003 2 06203 TXH 2NS82,2,3  
06202 0 50000 0 03717 CLA L2  
06203 -3 00005 2 06206 2NS82 TXL 2NS84,2,5  
06204 0 56000 0 03717 LDQ L2  
06205 0 02000 0 06207 TRA 2NS86  
06206 0 56000 0 03721 2NS84 LDQ L3  
06207 -3 00001 4 06220 2NS86 TXL 2NS88,4,1  
06210 0 60100 0 03740 STO TL1  
06211 -0 60000 0 03741 STQ TL2  
06212 -0 53400 1 03720 LXD X3,1  
06213 0 50000 0 03752 CLA L(1)  
06214 -3 00005 2 06227 TXL 2NS90,2,5  
06215 -0 53400 1 03716 LXD X2,1  
06216 0 50000 0 03753 CLA L(2)  
06217 0 02000 0 06227 TRA 2NS90  
06220 0 60100 0 03741 2NS88 STO TL2  
06221 -0 60000 0 03740 STQ TL1  
06222 -0 53400 1 03714 LXD X1,1  
06223 0 50000 0 03755 CLA L(4)  
06224 3 00003 2 06227 TXH 2NS90,2,3  
06225 -0 53400 1 03716 LXD X2,1  
06226 0 50000 0 03753 CLA L(2)  
06227 0 60100 0 03746 2NS90 STO REBITS  
06230 -0 32000 0 03734 ANA DUPES  
06231 0 10000 0 06235 TZE 2NS91  
06232 0 50000 0 03746 CLA REBITS

SAVE LINKAAGE  
2NS10 TO 2NS80 DETERMINE THE  
GROUP NR AND CARRY BITS  
FOR THE SL.

THIS DUPE TEST IS AN ADJUSTMENT  
FOR DUPLICATES IN A REDUCED  
3NS CASE.

THIS ROUTINE, TO 2NS90,  
PREPARES A TRAWRD CALLING  
SEQUENCE TO DETERMINE  
WHETHER OR NOT RESETTNG  
IS NECESSARY

TEST GROUP

2NS90 SEQ. SINGLE REBITS  
ARE PART OF THE TAG OF THE  
RESETTNG SC, IT MUST BE  
ADJUSTED FOR DUPE RESETS.

F2212480  
F2212490  
F2212500  
F2212510  
F2212520  
F2212530  
F2212540  
F2212550  
F2212560  
F2212570  
F2212580  
F2212590  
F2212600  
F2212610  
F2212620  
F2212630  
F2212640  
F2212650  
F2212660  
F2212670  
F2212680  
F2212690  
F2212700  
F2212710  
F2212720  
F2212730  
F2212740  
F2212750  
F2212760  
F2212770  
F2212780  
F2212790  
F2212800  
F2212810  
F2212820  
F2212830  
F2212840  
F2212850  
F2212860  
F2212870  
F2212880  
F2212890  
F2212900  
F2212910  
F2212920  
F2212930  
F2212940  
F2212950  
F2212960  
F2212970  
F2212980  
F2212990  
F2213000  
F2213010

06233	-0	50100	0	03734	ORA DUPES		F2213020
06234	0	60100	0	03746	STO REBITS		F2213030
06235	-0	63400	1	06173	2NS91 SXD 2NS65,1		F2213040
06236	-0	53400	2	03752	LXD L(1),2		F2213050
06237	0	07400	4	05441	TSX TRAWRD,4	TEST FOR TRANSFER BITS.	F2213060
06240	0	10000	0	06244	TZE 2NSEND	RESETTING NOT NECESSARY IF	F2213070
06241	-0	53400	2	03746	LXD REBITS,2	TRAWRD RESULT ZERO. IF	F2213080
06242	-0	53400	1	06173	LXD 2NS65,1	RESETTING NECESSARY, EXECUTE	F2213090
06243	0	07400	4	06370	TSX RESET,4	RESET ROUTINE AND	F2213100
06244	-0	53400	4	06157	2NSEND LXD 2NS25,4	EXIT	F2213110
06245	0	02000	4	00001	TRA 1,4		F2213120
					3NS00 ROUTINE PROCESSES SC WITH THREE DISTINCT INDEXED SUBSCRIPTS.		F2213130
06246	-0	63400	4	06255	3NS00 SXD 3GRP15,4	SAVE LINKAGE	F2213140
					THIS ROUTINE DETERMINES GROUP NUMBER FOR 3NS NO DUPE SC		F2213150
06247	-0	53400	2	03751	LXD L(0),2	PUT ZERO IN XRB	F2213160
06250	0	50000	0	03721	CLA L3	OBTAIN L3	F2213170
06251	0	34000	0	03717	CAS L2	COMPARE WITH L2	F2213180
06252	1	00004	2	06254	TXI 3GRP10,2,4	L3 GREATER THAN L2	F2213190
06253	0	07400	4	00004	TSX DIAG,4 NO DUPES.	ERROR. GO TO DIAGNOSTIC.	F2213200
06254	0	34000	0	03715	3GRP10 CAS L1	L3 LESS THAN L2,COMPARE L3,L1	F2213215
06255	-3	00000	0	06260	3GRP15 TXL 3GRP20,0	L3 GREATER THAN L1	F2213220
06256	0	07400	4	00004	TSX DIAG,4 NO DUPES.	ERROR. GO TO DIAGNOSTIC.	F2213230
06257	1	00001	2	06260	TXI 3GRP20,2,1	L3 LESS THAN L1	F2213245
06260	0	50000	0	03717	3GRP20 CLA L2	OBTAIN L2	F2213250
06261	0	40200	0	03715	SUB L1	SUBTRACT L1	F2213260
06262	-0	12000	0	06264	TMI 3GRP30	TRA IF L2 LESS THAN L1	F2213270
06263	1	00002	2	06264	TXI 3GRP30,2,2	L2 GREATER THAN L1	F2213280
06264	-0	75400	2	00000	3GRP30 PXD 0,2	PUT GROUP NUMBER IN ACC DEC.	F2213290
06265	0	60100	0	03703	STO GROUP	OR INTO TAG 1	F2213300
06266	0	50000	0	03715	CLA L1	OBTAIN L1	F2213310
06267	0	40200	0	03752	SUB L(1)	L1 LESS 1	F2213320
06270	0	40200	0	03717	SUB L2	L1 LESS 1 LESS L2	F2213330
06271	-0	10000	0	06274	TNZ 3GRP40	NOT ZERO,NO CARRY,TRA	F2213340
06272	-0	53400	2	03755	LXD L(4),2	SET XRB	F2213350
06273	0	07400	4	04754	TSX CARRY,4	AND TSX TO CARRY	F2213360
06274	0	50000	0	03717	3GRP40 CLA L2	RE-ENTRY,OBTAIN L2	F2213370
06275	0	40200	0	03752	SUB L(1)	L2 LESS 1	F2213380
06276	0	40200	0	03721	SUB L3	L2 LESS 1 LESS L3	F2213390
06277	-0	10000	0	06302	TNZ 3GRP50	NOT ZERO,NO CARRY,TRA	F2213400
06300	-0	53400	2	03753	LXD L(2),2	SET XRB	F2213410
06301	0	07400	4	04754	TSX CARRY,4	AND TSX TO CARRY	F2213420
06302	-0	53400	6	03751	3GRP50 LXD L(0),6	THE FOLLOWING ROUTINE,	F2213430
06303	-0	53400	1	03703	LXD GROUP,1	THROUGH 3GRP72, COMPUTES	F2213440
06304	0	02000	1	06313	3GRP55 TRA 3GRP55+7,1	QUANTITIES FOR XRB, XRC.	F2213450
06305	1	00002	2	06314	TXI 3GRP65,2,2	GROUP IS SIX	F2213460
06306	1	00004	4	06314	TXI 3GRP65,4,4	FIVE	F2213470
06307	1	00004	2	06314	TXI 3GRP65,2,4	FOUR	F2213480
06310	1	00002	6	06313	TXI 3GRP60,6,2	THREE	F2213490
06311	1	00002	4	06314	TXI 3GRP65,4,2	TWO	F2213500
06312	1	00004	4	06313	TXI 3GRP60,4,4	ONE	F2213510
06313	1	00002	2	06314	3GRP60 TXI 3GRP65,2,2		F2213520
06314	0	50000	4	03720	3GRP65 CLA X1+4,4		F2213530
06315	0	60100	0	06362	STO INX		F2213540
							F2213550



06316	0	50000	4	03721	CLA X1+5,4
06317	0	60100	0	06363	STO INL
06320	0	50000	2	03720	CLA X1+4,2
06321	0	60100	0	06364	STO MIDX
06322	0	50000	2	03721	CLA X1+5,2
06323	0	60100	0	06365	STO MIDL
06324	3	00000	4	06326	TXH 3GRP70,4,0
06325	1	00001	4	06326	TXI 3GRP70,4,1
06326	-0	63400	4	06357	3GRP70 SXD INP,4
06327	3	00000	2	06331	TXH 3GRP72,2,0
06330	1	00001	2	06331	TXI 3GRP72,2,1
06331	-0	63400	2	06361	3GRP72 SXD MIDP,2
06332	-0	53400	4	03755	LXD L(4),4
06333	0	50000	4	06366	3GRP75 CLA INX+4,4
06334	-0	73400	1	00000	PDX 0,1
06335	0	50000	4	06367	CLA INL+4,4
06336	0	60100	0	03741	STO TL2
06337	0	50000	0	03723	CLA LL
06340	0	60100	0	03740	STO TL1
06341	-0	53400	2	03752	LXD L(1),2
06342	-0	63400	4	06360	SXD 3GRP80,4
06343	0	07400	4	05441	TSX TRAWRD,4
06344	-0	53400	4	06360	LXD 3GRP80,4
06345	0	10000	0	06355	TZE 3GRP77
06346	0	50000	4	06363	CLA INP+4,4
06347	-0	73400	2	00000	PDX 0,2
06350	0	50000	4	06366	CLA INX+4,4
06351	-0	73400	1	00000	PDX 0,1
06352	-0	63400	4	06360	SXD 3GRP80,4
06353	0	07400	4	06370	TSX RESET,4
06354	-0	53400	4	06360	LXD 3GRP80,4
06355	2	00002	4	06333	3GRP77 TIX 3GRP75,4,2
06356	0	02000	0	06366	TRA 3NSEND
06357	0	00000	0	00000	INP HTR
06360	0	00000	0	00000	3GRP80 HTR
06361	0	00000	0	00000	MIDP HTR
06362	0	00000	0	00000	INX HTR
06363	0	00000	0	00000	INL HTR
06364	0	00000	0	00000	MIDX HTR
06365	0	00000	0	00000	MIDL HTR
06366	-0	53400	4	06255	3NSEND LXD 3GRP15,4
06367	0	02000	4	00001	TRA 1,4
06370	-0	63400	4	06421	RESET SXD RES45,4
06371	-0	75400	2	00000	PXD 0,2
06372	0	60100	0	06613	STO RES300
06373	-0	75400	1	00000	PXD 0,1
06374	0	60100	0	06614	STO RES310
06375	0	50000	0	03710	CLA C3
06376	0	77100	0	00022	ARS 18
06377	0	02000	2	06406	RES05 TRA RES05+7,2
06400	0	02000	0	06422	TRA RES50
06401	0	02000	0	06414	TRA RES30
06402	0	02000	0	06416	TRA RES40
06403	0	02000	0	06412	TRA RES20

A  
A  
A  
A  
A  
A

THE QUANTITIES IN XRB.  
XRC, ARE ZERO, TWO, OR  
FOUR, ADJUSTED TO ONE,  
TWO, FOUR, TO INDICATE THE  
POSITION OF THE SUBSCRIPT  
BEING RESET, STORE IN INP, MIDP.  
THIS LOOP IS EXECUTED TWICE.  
OBTAIN INNER INDEX OF PAIR  
IN XRA  
OBTAIN INNER LEVEL OF PAIR  
TL2  
OBTAIN LOWER LEVEL IN  
TL1  
PUT ONE IN XRB,  
SAVE XRC,  
AND USE TRAWRD.  
RESTORE XRC,  
GO TO INDEXING IF ZERO.  
TRAWRD RESULT NOT ZERO.  
PREPARE TO  
USE RESET

SAVE XRC,  
GO TO RESET,  
RESTORE XRC,  
INDEX AND GO BACK,  
OR EXIT  
POSITION OF INNER SUB.

POSITION OF MIDDLE SUB.  
INDEX INNER LEVEL SUBSCRIPT  
LEVEL INNER LEVEL SUBSCRIPT  
INDEX MIDDLE LEVEL SUBSCRIPT  
LEVEL MIDDLE LEVEL SUBSCRIPT

SAVE LINKAGE  
SAVE  
PREFIX (REBITS)  
SAVE INDEX  
OF RESET  
OBTAIN C3 IN  
ADDRESS PART.  
INDEXED TRANSFER, C(XRB)=C(REBITS)  
C(XRB)=110  
C(XRB)=101  
C(XRB)=100  
C(XRB)=011

F2213560  
F2213570  
F2213580  
F2213590  
F2213600  
F2213610  
F2213620  
F2213630  
F2213640  
F2213650  
F2213660  
F2213670  
F2213680  
F2213690  
F2213700  
F2213710  
F2213718  
F2213720  
F2213740  
F2213750  
F2213760  
F2213770  
F2213780  
F2213790  
F2213800  
F2213810  
F2213820  
F2213830  
F2213840  
F2213850  
F2213860  
F2213870  
F2213880  
F2213890  
F2213900  
F2213910  
F2213920  
F2213930  
F2213940  
F2213950  
F2213960  
F2213970  
F2213980  
F2213990  
F2214000  
F2214010  
F2214020  
F2214030  
F2214040  
F2214050  
F2214060  
F2214070  
F2214080  
F2214090

06404	0	02000	0	06422	TRA	RES50
06405	0	60100	0	05064	RES10	STO E2
06406	0	50000	0	03713		CLA D2
06407	0	77100	0	00022		ARS 18
06410	0	40000	0	03712		ADD D1
06411	0	02000	0	06430	TRA	RES60
06412	0	40000	0	03706	RES20	ADD C2
06413	0	02000	0	06405	TRA	RES10
06414	0	40000	0	03704	RES30	ADD C1
06415	0	02000	0	06405	TRA	RES10
06416	0	50000	0	03704	RES40	CLA C1
06417	0	60100	0	05064		STO E2
06420	0	50000	0	03751		CLA L(0)
06421	-3	00000	0	06430	RES45	TXL RES60,0
06422	0	50000	0	03706	RES50	CLA C2
06423	0	77100	0	00022		ARS 18
06424	-3	00002	2	06426		TXL RES55,2,2
06425	0	40000	0	03704		ADD C1
06426	0	60100	0	05064	RES55	STO E2
06427	0	50000	0	03712		CLA D1
06430	0	60100	0	05065	RES60	STO E3
06431	3	00004	2	06433		TXH RES65,2,4
06432	3	00003	2	06620		TXH RES400,2,3
06433	-0	53400	1	04007	RES65	LXD RESXX,1
06434	-0	63400	1	06445		SXD RES75,1
06435	0	53400	1	04007		LXA RESXX,1
06436	0	02000	0	06445		TRA RES75
06437	0	50000	1	07755	RES70	CLA RETABZ,1
06440	-0	32000	0	03772		ANA DECMASK
06441	0	34000	0	06614		CAS RES310
06442	1	77775	1	06445		TXI RES75,1,-3
06443	0	02000	0	06447		TRA RES80
06444	1	77775	1	06445	RES73	TXI RES75,1,-3
06445	3	00000	1	06437	RES75	TXH RES70,1
06446	0	02000	0	06466		TRA RES85
06447	0	50000	1	07755	RES80	CLA RETABZ,1
06450	-0	32000	0	06615		ANA RES320
06451	0	76700	0	00006		ALS 6
06452	0	40200	0	06613		SUB RES300
06453	-0	10000	0	06444		TNZ RES73
06454	0	50000	1	07756		CLA RETABZ+1,1
06455	0	40200	0	05064		SUB E2
06456	-0	10000	0	06444		TNZ RES73
06457	0	50000	1	07757		CLA RETABZ+2,1
06460	0	40200	0	05065		SUB E3
06461	-0	10000	0	06444		TNZ RES73
06462	0	50000	1	07755		CLA RETABZ,1
06463	-0	32000	0	03773		ANA ADDMSK
06464	0	60100	0	06616		STO RES330
06465	0	02000	0	06573		TRA RES200
06466	0	50000	0	06613	RES85	CLA RES300
06467	0	77100	0	00006		ARS 6
06470	-0	50100	0	03700		ORA TAG
06471	0	60100	0	06616		STO RES330

C(XRB)= 010  
C(XRB)=001  
THESE INSTRUCTIONS, THROUGH  
RES60, COMPUTE THE  
CHARACTERISTIC WORDS OF THE  
SUBSCRIPT COMBINATION.

IF PREFIX IS 1,0,0,  
T RA TO RES400  
SEARCH  
RETAB  
FOR  
SAME  
INDEX.

INDEX FOUND, GO TO RES80

NOT FOUND, GO TO RES85  
COMPARE PREFIX OF  
RETAB ENTRY  
WITH CURRENT  
PREFIX. IF NOT EQUAL,  
CONTINUE RETAB SEARCH.  
IF EQUAL, COMPARE  
C HARACTERISTIC WORDS.  
IF  
NOT

EQUAL, CONTINUE SEARCH.  
IF EQUAL,  
USE RESET TAG ALREADY  
ENTERED. SAVE NAME.  
TRA TO RES200  
NO USABLE ENTRY FOUND.  
MAKE  
NEW

F2214100  
F2214110  
F2214120  
F2214130  
F2214140  
F2214150  
F2214160  
F2214170  
F2214180  
F2214190  
F2214200  
F2214210  
F2214220  
F2214230  
F2214240  
F2214250  
F2214260  
F2214270  
F2214280  
F2214290  
F2214300  
F2214310  
F2214320  
F2214330  
F2214340  
F2214350  
F2214360  
F2214370  
F2214380  
F2214390  
F2214400  
F2214410  
F2214420  
F2214430  
F2214440  
F2214450  
F2214460  
F2214470  
F2214480  
F2214490  
F2214500  
F2214510  
F2214520  
F2214530  
F2214540  
F2214550  
F2214560  
F2214570  
F2214580  
F2214590  
F2214600  
F2214610  
F2214620  
F2214630

06472	-0	50100	0	06614	ORA RES310	ENTRY	F2214640
06473	-0	53400	1	04007	LXD RESXX,1	IN	F2214650
06474	3	00000	1	06476	TXH RES87,1,0	RETAB.	F2214660
06475	0	07400	4	00004	TSX DIAG,4 RETAB TABLE FULL.	ERROR. GO TO DIAGNOSTIC.	F2214675
06476	0	60100	1	07755	RES87 STO RETABZ,1		F2214680
06477	0	50000	0	05064	CLA E2		F2214690
06500	0	60100	1	07756	STO RETABZ+1,1		F2214700
06501	0	50000	0	05065	CLA E3		F2214710
06502	0	60100	1	07757	STO RETABZ+2,1		F2214720
06503	1	77775	1	06504	TXI RES88,1,-3	ADJUST IN DEX.	F2214730
06504	-0	63400	1	04007	RES88 SXD RESXX,1		F2214740
06505	0	50000	0	06614	CLA RES310	MAKE E2 WORD	F2214750
06506	3	00005	2	06522	TXH RES96,2,5	FOR DRUMTAG OR	F2214760
06507	3	00004	2	06521	TXH RES94,2,4	TAGTAG ENTRY	F2214770
06510	3	00003	2	06520	TXH RES92,2,3		F2214780
06511	3	00002	2	06515	TXH RES90,2,2		F2214790
06512	3	00001	2	06522	TXH RES96,2,1		F2214800
06513	0	77100	0	00022	ARS 18		F2214810
06514	0	02000	0	06522	TRA RES96		F2214820
06515	0	77100	0	00022	RES90 ARS 18		F2214830
06516	0	40000	0	06614	ADD RES310		F2214840
06517	0	02000	0	06522	TRA RES96		F2214850
06520	0	50000	0	03751	RES92 CLA L(0)		F2214860
06521	0	77100	0	00022	RES94 ARS 18		F2214870
06522	0	60100	0	05064	RES96 STO E2		F2214880
06523	0	50000	0	06614	CLA RES310	MAKE	F2214890
06524	0	77100	0	00022	ARS 18	E1 WORD	F2214900
06525	3	00003	2	06527	TXH RES98,2,3		F2214910
06526	0	50000	0	03751	CLA L(0)		F2214920
06527	0	60100	0	05063	RES98 STO E1		F2214930
06530	-0	53400	1	06614	LXD RES310,1		F2214940
06531	0	50000	1	00733	CLA DOTAGZ,1		F2214950
06532	-0	32000	0	03772	ANA DECMASK		F2214960
06533	-0	60200	0	05063	ORS E1		F2214970
06534	0	50000	0	06616	CLA RES330	MAKE	F2214980
06535	0	60100	0	05065	STO E3	E3 WORD	F2214990
06536	0	50000	0	03757	CLA L(6)	MAKE	F2215000
06537	0	60100	0	05066	STO E4	E4	F2215010
06540	0	50000	0	06613	CLA RES300	WORD	F2215020
06541	0	77100	0	00022	ARS 18		F2215030
06542	-0	60200	0	05066	ORS E4		F2215040
06543	-3	00002	2	06550	TXL RES110,2,2		F2215050
06544	-3	00003	2	06546	TXL RES100,2,3		F2215060
06545	-3	00004	2	06550	TXL RES110,2,4		F2215070
06546	0	76700	0	00011	RES100 ALS 9		F2215080
06547	-0	60200	0	05066	ORS E4		F2215090
06550	0	50000	0	03751	RES110 CLA L(0)	THESE INSTRUCTIONS,	F2215100
06551	0	60100	0	06617	STO RES340	TO RES170, DETERMINE	F2215110
06552	-0	53400	4	03756	LXD L(5),4	WHICH COEFFICIENTS	F2215120
06553	0	50000	4	03711	RES120 CLA C1+5,4	ARE GREATER THAN	F2215130
06554	0	40200	0	03752	SUB L(1)	ONE AND PLACE	F2215140
06555	0	10000	0	06562	TZE RES140	THIS INFO IN	F2215150
06556	2	00001	4	06557	RES130 TIX RES130,4,1	E4(TAG1).	F2215160
06557	-0	75400	4	00000	RES130 PXD 0,4		F2215170

A  
A  
A  
A

```

06560 -0 60200 0 06617 ORS RES340
06561 1 00001 4 06562 TXI RES140,4,1
06562 2 00002 4 06553 RES140 TIX RES120,4,2
06563 0 50000 0 06617 CLA RES340
06564 -0 32000 0 06613 ANA RES300
06565 0 77100 0 00006 ARS 6
06566 -0 60200 0 05066 ORS E4
06567 0 50000 0 05073 CLA DRMTAG
06570 0 07400 4 05025 TSX LIST,4
06571 0 02000 0 06573 TRA RES200
06572 0 07400 4 05510 RES180 TSX TAGENT,4
06573 -0 53400 1 06614 RES200 LXD RES310,1
06574 0 50000 1 00733 CLA DOTAGZ,1
06575 0 60100 0 05063 STO E1
06576 0 50000 0 03741 CLA TL2
06577 0 77100 0 00022 ARS 18
06600 0 40000 0 03740 ADD TL1
06601 0 60100 0 05064 STO E2
06602 0 50000 0 06616 CLA RES330
06603 0 76700 0 00022 ALS 18
06604 0 40000 0 03701 ADD TS
06605 -0 76000 0 00003 SSM
06606 0 60100 0 05065 STO E3
06607 0 50000 0 05070 CLA TRASTO
06610 0 07400 4 05025 TSX LIST,4
06611 -0 53400 4 06421 RES210 LXD RES45,4
06612 0 02000 4 00001 TRA 1,4
06613 0 00000 0 00000 RES300 HTR
06614 0 00000 0 00000 RES310 HTR
06615 +0000000070000 RES320 OCT 70000
06616 0 00000 0 00000 RES330 HTR
06617 0 00000 0 00000 RES340 HTR
06620 0 50000 0 05064 RES400 CLA E2
06621 0 40200 0 03752 SUB L(1)
06622 -0 10000 0 06433 TNZ RES65
06623 0 50000 1 00733 CLA DOTAGZ,1
06624 0 77100 0 00021 ARS 17
06625 0 76000 0 00001 LBT
06626 0 02000 0 06630 TRA RES410
06627 0 02000 0 06433 TRA RES65
06630 0 50000 1 00741 RES410 CLA DOTAGZ+6,1
06631 -0 32000 0 04001 ANA BITTWO
06632 -0 10000 0 06645 TNZ RES420
06633 0 50000 0 03741 CLA TL2
06634 0 77100 0 00022 ARS 18
06635 -0 50100 0 03740 ORA TL1
06636 -0 76000 0 00003 SSM
06637 0 76500 0 00043 LRS 35
06640 -0 75400 1 00000 PXD 0,1
06641 -0 50100 0 03701 ORA TS
06642 -0 53400 2 03752 LXD L(1),2
06643 0 07400 4 05254 TSX TAGADD,4
06644 0 02000 0 06611 TRA RES210
06645 0 07400 4 05140 RES420 TSX RSR,4

```

DRUM TAG ENTRY  
OR  
TAGTAG  
ENTRY.  
MAKE  
PROPER  
TRASTO  
ENTRY

EXIT.

PREFIX STORAGE  
INDEX STORAGE  
PREFIX MASK  
RESET NAME STORAGE  
E.S.  
TEST FOR COEFFICIENT  
EQUAL TO ONE.  
IF NOT, PROCESS NORMALLY  
THROUGH RESET.  
TEST FOR CONSTANT N1.  
IF VARIABLE, NORMAL PROCESSING.  
0  
1  
HAS COUNTER BEEN FOUND.

IF SO, GO TO RES420  
IF NOT, MAKE ENTRY  
IN ADDED TAG TABLE  
FOR PROCESSING INTO  
DRUM TAG AFTER NEST  
ANALYSIS.

TRA TO EXIT  
COUNTER FOUND, USE RSR.

F2215180  
F2215190  
F2215200  
F2215210  
F2215220  
F2215230  
F2215240  
F2215250  
F2215260  
F2215270  
F2215280  
F2215290  
F2215300  
F2215310  
F2215320  
F2215330  
F2215340  
F2215350  
F2215360  
F2215370  
F2215380  
F2215390  
F2215400  
F2215410  
F2215420  
F2215430  
F2215440  
F2215450  
F2215460  
F2215470  
F2215480  
F2215490  
F2215500  
F2215510  
F2215520  
F2215530  
F2215540  
F2215550  
F2215560  
F2215570  
F2215580  
F2215590  
F2215600  
F2215610  
F2215620  
F2215630  
F2215640  
F2215650  
F2215660  
F2215670  
F2215680  
F2215690  
F2215700  
F2215710

06646	0	02000	0	06611	TRA RES210	TRA TO EXIT	F2215720
					THE 2 WD SUBRT NORMRT SPACES TAPE 1 PAST DIAGNOSTIC RECORD.		F2215725
06647	0	76200	0	00221	NORMRT RDS 145	SKIP OVER DIAGNOSTIC RECORD ON SYSTEM TAPE.	F2215726
06650	0	02000	0	00004	TRA ONETCS	GO TO ONE TO CS ( MONITOR)	F2215727
				06651	BSS 80		F2215730
				06771	TAGZ BSS 1		F2215740
				06772	BSS 99		F2215750
				07135	ADTAGZ BSS 1		F2215760
				07136	BSS 99		F2215770
				07301	NAMZ BSS 1		F2215780
				07302	BSS 299		F2215790
				07755	RETABZ BSS 1		F2215800
					MASTER RECORD CARD = FN030		F2215805
					THIS ROUTINE PROCESSES SINGLE RELATIVE CONSTANTS		F2215810
					AND, FOR SC WITH TWO RC SUBS, DOES ALL PROCESSING		F2215820
					EXCEPT WHERE THERE IS A POSSIBLE MULTIPLE DEFINITION,		F2215830
					AT WHICH POINT IT CALLS ON 2R0000.		F2215840
					STATE B		F2215850
				05566	ORG IDENT		F2215860
				05566	-0 53400 1 00030	CORES LXN DOTAG-1,1	F2215870
				05567	-0 63400 1 05602	SXD DSDR20,1	F2215880
				05570	-0 63400 1 05745	SXD DSD118,1	F2215890
				05571	-0 63400 1 05762	SXD DSD145,1	F2215900
				05572	-0 63400 1 06026	SXD 2R0020,1	F2215910
				05573	-0 76000 0 00144	DSDR00 MSE 100	F2215920
				05574	0 76100 0 00000	NOP	F2215930
				05575	-0 53400 1 03674	LXD XC,1	F2215940
				05576	-0 53400 4 03732	LXD DELTA,4	F2215950
				05577	0 50000 0 03675	CLA LC	F2215960
				05600	0 62200 0 05605	STD DSDR30	F2215970
				05601	1 77767 1 05602	DSDR10 TXI DSDR20,1,-9	F2215980
D				05602	-3 00000 1 05734	DSDR20 TXL DSD100,1	F2215990
				05603	0 50000 1 00740	CLA DOTAGZ+5,1	F2216000
				05604	-0 73400 2 00000	PDX 0,2	F2216010
D				05605	-3 00000 2 05734	DSDR30 TXL DSD100,2	F2216020
				05606	0 50000 1 00734	CLA DOTAGZ+1,1	F2216030
				05607	0 40200 0 03735	SUB RSYM1	F2216040
				05610	0 10000 0 05621	TZE DSDR50	F2216050
				05611	-3 00002 4 05601	TXL DSDR10,4,2	F2216060
				05612	0 50000 1 00734	CLA DOTAGZ+1,1	F2216070
				05613	0 40200 0 03736	SUB RSYM2	F2216080
				05614	-0 10000 0 05601	TNZ DSDR10	F2216090
				05615	0 50000 0 03736	CLA RSYM2	F2216100
				05616	0 56000 0 03735	LDQ RSYM1	F2216110
				05617	0 60100 0 03735	STO RSYM1	F2216120
				05620	-0 60000 0 03736	STQ RSYM2	F2216130
				05621	-0 63400 1 06365	DSDR50 SXD XR1,1	F2216140
				05622	-0 75400 2 00000	PXD 0,2	F2216150
				05623	0 60100 0 06366	STO LR1	F2216160
				05624	0 60100 0 03741	STO TL2	F2216170
				05625	0 50000 0 03723	CLA LL	F2216180
				05626	0 60100 0 03740	STO TL1	F2216190
				05627	-0 53400 2 03752	LXD L(1),2	F2216200
				05630	-3 00002 4 05632	TXL DSDR55,4,2	F2216210
				05631	-0 53400 2 03753	LXD L(2),2	

PUT INDEX OF DC IN XRA  
PUT DELTA IN XRC  
INITIALIZE END OF  
DC TEST INSTR  
TAKE NEXT DOWN DO,IF POSSIBLE  
EXIT IF DOTAG EXHAUSTED.  
OBTAIN LEVEL OF THIS DO IN  
XRB,COMPARE WITH LEVEL OF  
D6 AND EXIT IF NOT IN DC.  
OBTAIN SYMBOL OF THIS DO  
COMPARE WITH (FIRST) R SYM.  
IF THIS DO IS DR1,TRA.  
IF NOT DR1,GO BACK,UNLESS DELTA3  
OBTAIN SYMBOL AGAIN  
AND COMPARE WITH RSYM2  
IF NOT RSYM1 OR RSYM2,GO BACK  
IF DO SYM IS RSYM2,  
SWITCH RSYM1 AND RSYM2  
TO MAKE BUCKET LABLES  
AGREE WITH ORDER OF DO FORMULAS  
SAVE  
INDEX OF R1  
AND LEVEL OF R1  
INITIALIZE TRAWRD TL2  
INITIALIZE TRAWRD TL1  
PREPARE  
TRAWRD C(XRB)

05632 0 07400 4 05441 DSDR55 TSX TRAWRD,4  
 05633 0 60100 0 06371 STO D2D1  
 05634 -0 53400 4 03732 LXD DELTA,4  
 05635 3 00002 4 05703 TXH DSDR85,4,2  
 05636 0 10000 0 05602 TZE DSDR20  
 05637 -0 63400 1 05733 SXD DSDR95,1  
 05640 -3 00001 4 05655 TXL DSDR65,4,1  
 05641 0 50000 0 03761 CLA L(36)  
 05642 0 40200 0 03675 SUB LC  
 05643 0 77100 0 00022 ARS 18  
 05644 0 62100 0 05647 STA DSDR60  
 05645 0 56000 0 03751 LDQ L(0)  
 05646 0 50000 0 06371 CLA D2D1  
 05647 0 76500 0 00000 DSDR60 LRS  
 05650 0 10000 0 05652 TZE DSDR62  
 05651 0 76000 0 00144 PSE 100  
 05652 -0 60000 0 06371 DSDR62 STQ D2D1  
 05653 0 50000 0 06371 CLA D2D1  
 05654 0 10000 0 05700 TZE DSDR80  
 05655 0 50000 0 03672 DSDR65 CLA ATSW  
 05656 -0 10000 0 05700 TNZ DSDR80  
 05657 -0 53400 1 06365 LXD XR1,1  
 05660 0 07400 4 05411 TSX TINFOR,4  
 05661 0 02000 0 05667 TRA DSDR70  
 05662 -0 53400 2 03751 LXD L(0),2  
 05663 -0 53400 1 06365 LXD XR1,1  
 05664 0 07400 4 05254 TSX TAGADD,4  
 05665 -0 60000 0 06374 STQ TR1  
 05666 0 02000 0 05675 TRA DSDR75  
 05667 -0 53400 1 06365 DSDR70 LXD XR1,1  
 05670 0 50000 1 00733 CLA DOTAGZ,1  
 05671 -0 32000 0 03772 ANA DECMSK  
 05672 0 40000 0 03700 ADD TAG  
 05673 0 07400 4 06376 TSX GETNAM,4  
 05674 0 60100 0 06374 STO TR1  
 05675 -0 53400 1 06365 DSDR75 LXD XR1,1  
 05676 -0 53400 2 03751 LXD L(0),2  
 05677 0 07400 4 06431 TSX STORES,4  
 05700 -0 53400 1 05733 DSDR80 LXD DSDR95,1  
 05701 -0 53400 4 03732 LXD DELTA,4  
 05702 0 02000 0 05602 TRA DSDR20  
 05703 0 10000 0 06022 DSDR85 TZE 2R0000  
 05704 -0 53400 1 06365 LXD XR1,1  
 05705 -0 53400 2 03752 LXD L(1),2  
 05706 0 07400 4 05277 TSX SPC000,4  
 05707 0 02000 0 05717 TRA DSDR87  
 05710 -0 53400 1 06365 LXD XR1,1  
 05711 0 50000 1 00733 CLA DOTAGZ,1  
 05712 -0 32000 0 03772 ANA DECMSK  
 05713 0 40000 0 03700 ADD TAG  
 05714 0 07400 4 06376 TSX GETNAM,4  
 05715 0 60100 0 06374 STO TR1  
 05716 0 02000 0 05726 TRA DSDR89  
 05717 -0 53400 1 06365 DSDR87 LXD XR1,1

GO TO TRAWRD AND  
 SAVE IF NOT ZERO  
 RETURN HERE  
 TRANSFER IF DELTA IS THREE  
 RETURN IF RESULT ZERO

TR IF DELTA=1  
 FOR DELTA=2,SEPARATE  
 TRAWRD RESULTS.

IF TRANSFERS EXIST DC TO DL,  
 SET SENSE SWITCH

IF NO TRANSFERS DR TO DC,EXIT  
 TEST ADDED TAG SWITCH  
 IF ADDED DELTA TWO, SKIP INSERT  
 IS TAG IN DR1  
 GO TO TINFOR AND RETURN  
 FOUND  
 NOT FOUND

INSERT TAG IN R1,RETURN  
 HERE AND STORE NAME IN TR1

FIND NAME OF TAG IN R1

LIST STORES

GO TO R2 SEARCH IF NO TRA R1 TO D6  
 IF TRA R1 TO DC,  
 USE SPC000 TO LOOK FOR  
 TAG IN R1  
 NOT FOUND,GO TO DSDR87  
 FOUND,USE SUBROUTINE  
 GETNAM TO DETERMINE LABEL  
 OF TAG IN R1

PUT NAME IN TR1

USE TAGADD TO INSERT

F2216220  
 F2216230  
 F2216240  
 F2216250  
 F2216260  
 F2216270  
 F2216280  
 F2216290  
 F2216300  
 F2216310  
 F2216320  
 F2216330  
 F2216340  
 F2216350  
 F2216360  
 F2216370  
 F2216380  
 F2216390  
 F2216400  
 F2216410  
 F2216420  
 F2216430  
 F2216440  
 F2216450  
 F2216460  
 F2216470  
 F2216480  
 F2216490  
 F2216500  
 F2216510  
 F2216520  
 F2216530  
 F2216540  
 F2216550  
 F2216560  
 F2216570  
 F2216580  
 F2216590  
 F2216600  
 F2216610  
 F2216620  
 F2216630  
 F2216640  
 F2216650  
 F2216660  
 F2216670  
 F2216680  
 F2216690  
 F2216700  
 F2216710  
 F2216720  
 F2216730  
 F2216740  
 F2216750

	05720	-0	53400	2	03751	LXD	L(0),2
	05721	0	07400	4	05254	TSX	TAGADD,4
	05722	-0	60000	0	06374	STQ	TR1
	05723	-0	53400	1	03722	LXD	XL,1
	05724	0	50000	0	04005	CLA	BIT20
	05725	-0	60200	1	00741	ORS	DOTAGZ+6,1
	05726	-0	53400	1	06365	DSDR89	LXD XR1,1
	05727	-0	53400	2	03752	LXD	L(1),2
	05730	0	07400	4	06431	TSX	STORES,4
	05731	0	02000	0	06022	DSDR90	TRA 2R0000
	05732	-0	53400	4	03732	DSDR92	LXD DELTA,4
D	05733	-3	00000	0	05602	DSDR95	TXL DSDR20,0
	05734	-3	00001	4	06021	DSD100	TXL DSD200,4,1
	05735	3	00002	4	06021	TXH	DSD200,4,2
	05736	-0	76000	0	00144	MSE	100
	05737	0	02000	0	05741	TRA	DSD110
	05740	0	02000	0	05776	TRA	DSD170
	05741	-0	53400	1	03722	DSD110	LXD XL,1
	05742	0	50000	1	00740	CLA	DOTAGZ+5,1
	05743	0	62200	0	05750	STD	DSD120
	05744	1	77767	1	05745	DSD115	TXI DSD118,1,-9
D	05745	-3	00000	1	06021	DSD118	TXL DSD200,1
	05746	0	50000	1	00740	CLA	DOTAGZ+5,1
	05747	-0	73400	2	00000	PDX	0,2
D	05750	-3	00000	2	06021	DSD120	TXL DSD200,2
	05751	-0	75400	1	00000	PXD	0,1
	05752	0	40200	0	03674	SUB	XC
	05753	0	10000	0	05760	TZE	DSD130
	05754	0	50000	1	00734	CLA	DOTAGZ+1,1
	05755	0	40200	0	03735	SUB	RSYM1
	05756	0	10000	0	05767	TZE	DSD160
	05757	0	02000	0	05744	TRA	DSD115
	05760	-0	63400	2	05765	DSD130	SXD DSD150,2
	05761	1	77767	1	05762	DSD140	TXI DSD145,1,-9
D	05762	-3	00000	1	06021	DSD145	TXL DSD200,1
	05763	0	50000	1	00740	CLA	DOTAGZ+5,1
	05764	-0	73400	2	00000	PDX	0,2
D	05765	-3	00000	2	05750	DSD150	TXL DSD120,2
	05766	0	02000	0	05761	TRA	DSD140
	05767	-0	75400	2	00000	DSD160	PXD 0,2
	05770	0	60100	0	03741	STO	TL2
	05771	0	50000	0	03723	CLA	LL
	05772	0	60100	0	03740	STO	TL1
	05773	-0	53400	2	03752	LXD	L(1),2
	05774	0	07400	4	05441	TSX	TRAWRD,4
	05775	0	10000	0	05745	TZE	DSD118
	05776	-0	53400	2	03722	DSD170	LXD XL,2
	05777	0	50000	0	04000	CLA	BITONE
	06000	-0	60200	2	00740	ORS	DOTAGZ+5,2
	06001	-0	53400	2	03750	LXD	LOWPOS,2
	06002	0	50000	0	03751	CLA	L(0)
	06003	0	60100	2	03721	STO	X1+5,2
	06004	0	60100	2	03722	STO	X1+6,2
	06005	2	00001	2	06006	TIH	DSD175,2,1

TAG IN R1

PUT NAME IN TR1

LIST STORES

GO TO R2 ROUTINE AND  
RETURN HERE  
NEXT R1. DEC CONTAINS XNEXTR1  
TRA IF DELTA IS 1  
TRA IF DELTA IS 3  
DELTA IS 2,TEST D3D1 SWITCH  
LIGHT OFF  
LIGHT ON  
OBTAIN INDEX OF DL IN XRA  
OBTAIN LEVEL OF DL  
AND STORE IN TEST INSTR.  
TAKE NEXT DOWN DO IF POSSIBLE  
OTHERWISE,EXIT.  
OBTAIN LEVEL OF THIS DO  
AND TEST WHETHER THIS DO IS  
IN DL. IF NOT,EXIT.  
IF IN DL,  
IF THIS DO D6.  
IF SO,TRA.  
IF NOT,IS THIS DO A DR.  
  
IF SO,TRA.  
IF NOT,GO BACK TO GET NEXT DO  
IF DO IS DC,

IS NEW IN DL.  
IF SO,GO BACK TO STEP DOWN  
AGAIN IN DC. IF NOT IN  
DC, GO TO TEST IF IN DL  
INITIALIZE  
TL2 TO LEVEL OF DR  
PUT LEVEL OF DL  
IN TL1  
PUT 1 IN XRB  
AND GO TO TRAWRD.  
IF RESULT ZERO,GO BACK

F2216760  
F2216770  
F2216780  
F2216790  
F2216800  
F2216810  
F2216820  
F2216830  
F2216840  
F2216850  
F2216860  
F2216870  
F2216880  
F2216890  
F2216900  
F2216910  
F2216920  
F2216930  
F2216940  
F2216950  
F2216960  
F2216970  
F2216980  
F2216990  
F2217000  
F2217010  
F2217020  
F2217030  
F2217040  
F2217050  
F2217060  
F2217070  
F2217080  
F2217090  
F2217100  
F2217110  
F2217120  
F2217130  
F2217140  
F2217150  
F2217160  
F2217170  
F2217180  
F2217190  
F2217200  
F2217210  
F2217220  
F2217230  
F2217240  
F2217250  
F2217260  
F2217270  
F2217280  
F2217290

	06006	-0	75400	2	00000	DSD175	PXD	0,2		F2217300
	06007	-0	60200	0	03727		ORS	DORC		F2217310
	06010	0	76000	0	00006		COM			F2217320
	06011	0	32000	0	03731		ANS	DOSUBS		F2217330
	06012	0	50000	0	03674		CLA	XC		F2217340
	06013	0	60100	0	03722		STO	XL		F2217350
	06014	0	50000	0	03675		CLA	LC		F2217360
	06015	0	60100	0	03723		STO	LL		F2217370
	06016	0	50000	0	03752		CLA	L(1)		F2217380
	06017	0	60100	0	03726		STO	NRDS		F2217390
	06020	0	60100	0	03732		STO	DELTA		F2217400
	06021	0	02000	0	06123	DSD200	TRA	DS4VAL		F2217410
								RELCON DELTA THREE SECOND	LEVEL DEFINITION.	F2217420
	06022	-0	53400	1	06365	2R0000	LXD	XR1,1	PUT INDEX OF R1 IN XRA	F2217430
	06023	0	50000	0	06366		CLA	LR1	OBTAIN LEVEL OF R1	F2217440
	06024	0	62200	0	06031		STD	2R0030	INITIALIZE TEST INSTR.	F2217450
	06025	1	77767	1	06026	2R0010	TXI	2R0020,1,-9	TAKE NEXT DOWN DO IF POSSIBLE	F2217460
D	06026	-3	00000	1	05732	2R0020	TXL	DSDR92,1	EXIT IF PARTLY FULL DOTAG EXHAUSTED	F2217470
	06027	0	50000	1	00740		CLA	DOTAGZ+5,1	OBTAIN LEVEL OF DO	F2217480
	06030	-0	73400	2	00000		PDX	0,2	PUT IN XRB AND COMPARE WITH	F2217490
D	06031	-3	00000	2	05732	2R0030	TXL	DSDR92,2	LR1,EXIT IF NEW DO NOT IN XR1.	F2217500
	06032	0	50000	1	00734		CLA	DOTAGZ+1,1	OBTAIN SYMBOL OF NEW DO,	F2217510
	06033	0	40200	0	03736		SUB	RSYM2	COMPARE WITH RSYM2,	F2217520
	06034	-0	10000	0	06025		TNZ	2R0010	IF NOT RSYM2,GO BACK.	F2217530
	06035	-0	63400	1	06367		SXD	XR2,1	SAVE INDEX	F2217540
	06036	-0	75400	2	00000		PXD	0,2	AND LEVEL	F2217550
	06037	0	60100	0	06370		STO	LR2	OF R2.	F2217560
	06040	0	60100	0	03741		STO	TL2	PREPARE FOR TSX TO TRAWRD.	F2217570
	06041	0	50000	0	03675		CLA	LC	TO TEST FOR TRANSFERS	F2217580
	06042	0	60100	0	03740		STO	TL1	FROM R2 TO DS.	F2217590
	06043	-0	53400	2	03752		LXD	L(1),2		F2217600
	06044	0	07400	4	05441		TSX	TRAWRD,4	IF NO TRANSFERS,GO BACK	F2217610
	06045	0	10000	0	06026		TZE	2R0020	FOR NEXT DO.	F2217620
	06046	-0	63400	1	06072		SXD	2R0065,1		F2217630
	06047	0	60100	0	06373		STO	D3D2	TEMPORARY STORAGE	F2217640
	06050	0	50000	0	03761		CLA	L(36)	PUT 36 IN ACC	F2217650
	06051	0	40200	0	06366		SUB	LR1	SUB LEVEL OF R1,	F2217660
	06052	0	77100	0	00022		ARS	18	SHIFT RESULT AND	F2217670
	06053	0	62100	0	06056		STA	2R0050		F2217680
	06054	0	56000	0	03751		LDQ	L(0)	PUT ZERO IN MQ,	F2217690
	06055	0	50000	0	06373		CLA	D3D2	OBTAIN TRAWRD RESULT,	F2217700
A	06056	0	76500	0	00000	2R0050	LRS		PERFORM SEPARATION	F2217710
	06057	0	60100	0	06372		STO	D3D1	AND SAVE	F2217720
	06060	-0	60000	0	06373		STQ	D3D2	RESULTS.	F2217730
	06061	0	50000	0	06372		CLA	D3D1	IF D3D1 IS ZERO,THEN D3D2	F2217740
	06062	-0	10000	0	06065		TNZ	2R0060	IS NOT ZERO	F2217750
	06063	0	50000	0	06371		CLA	D2D1	IF D2D1 IS ZERO,	F2217760
	06064	0	10000	0	06121		TZE	2R0200	TR TO GET NEX DO	F2217770
	06065	-0	53400	1	06367	2R0060	LXD	XR2,1	SEARCH FOR TAG	F2217780
	06066	0	07400	4	05411		TSX	TINFOR,4	IN R2	F2217790
	06067	0	02000	0	06100		TRA	2R0080	FOUND,TR TO OBTAIN NAME	F2217800
	06070	-0	53400	1	06367		LXD	XR2,1	NOT FOUND, LOOK FOR DELTA TWO	F2217810
	06071	0	07400	4	06413		TSX	ADDSER,4	INSERT IN ADDED TAG TABLE.	F2217820
D	06072	-3	00000	0	06105	2R0065	TXL	2R0090,0	FOUND,NAME IN ACC.	F2217830



06073	-0	53400	1	06367	LXD	XR2,1
06074	-0	53400	2	03751	LXD	L(0),2
06075	0	07400	4	05254	TSX	TAGADD,4
06076	-0	60000	0	06375	STQ	TR2
06077	0	02000	0	06106	TRA	2R0100
06100	-0	53400	1	06367	2R0080	LXD XR2,1
06101	0	50000	1	00733	CLA	DOTAGZ,1
06102	-0	32000	0	03772	ANA	DECMSK
06103	0	40000	0	03700	ADD	TAG
06104	0	07400	4	06376	TSX	GETNAM,4
06105	0	60100	0	06375	2R0090	STO TR2
06106	0	50000	0	06372	2R0100	CLA D3D1
06107	0	10000	0	06113	TZE	2R0150
06110	-0	53400	1	06367	LXD	XR2,1
06111	-0	53400	2	03753	LXD	L(2),2
06112	0	07400	4	06431	TSX	STORES,4
06113	0	50000	0	06373	2R0150	CLA D3D2
06114	0	10000	0	06121	TZE	2R0200
06115	0	50000	0	06371	CLA	D2D1
06116	0	10000	0	06121	TZE	2R0200
06117	-0	53400	1	06367	LXD	XR2,1
06120	0	07400	4	06447	TSX	STORXX,4
06121	-0	53400	1	06072	2R0200	LXD 2R0065,1
06122	0	02000	0	06026	TRA	2R0020
DRUM SEARCH OF FORVAL						
06123	-0	53400	1	04112	DS4VAL	LXD END80,1
06124	-3	00000	1	06207	TXL	DS4V20,1,0
06125	0	50000	0	03700	CLA	TAG
06126	0	76700	0	00022	ALS	18
06127	0	40000	0	03701	ADD	TS
06130	0	60100	0	05064	STO	E2
06131	-0	76000	0	00144	MSE	100
06132	0	76100	0	00000	NOP	
06133	0	50000	0	03676	CLA	ALPHA
06134	0	60100	0	03742	STO	A
06135	0	50000	0	03677	CLA	BETA
06136	0	40000	0	03765	ADD	L(1)A
06137	0	60100	0	03743	STO	B
06140	0	50000	0	06363	CLA	4VALAD
06141	0	60100	0	06362	STO	FORAD
06142	-0	53400	1	03751	LXD	L(0),1
06143	0	07400	4	06210	TSX	FSXX,4
06144	-0	53400	4	03732	LXD	DELTA,4
06145	3	00002	4	06207	TXH	DS4V20,4,2
06146	-3	00001	4	06207	TXL	DS4V20,4,1
06147	0	76000	0	00144	PSE	100
06150	0	50000	0	03743	CLA	B
06151	0	60100	0	03744	STO	NEXTA
06152	0	50000	0	03742	CLA	A
06153	0	60100	0	03743	STO	B
06154	-0	53400	2	03722	LXD	XL,2
06155	0	50000	2	00733	CLA	DOTAGZ,2
06156	0	73400	2	00000	PAX	0,2
06157	-0	32000	0	03772	ANA	DECMSK

NOT FOUND  
ADD TAG  
IN TABLE OF ADDED TAGS  
PUT NAME IN TR2

SEARCH  
FOR  
NAME

PUT NAME IN TR2  
LIST STORES, IF ANY TR,  
FOR TRANSFERS  
D3D1

TEST TR  
D3D2  
TEST TR  
D2D1  
LIST STORES

RETURN FOR  
NEXT R2

OBTAIN FORVAL EMPTY INDICATOR.  
EXIT IF FORVAL EMPTY  
PRESET WORD E2 FOR LIST  
ROUTINE, TAU TAG AND NAME

LIGHT 100 OFF

THESE INSTRUCTIONS SET UP  
FOR DRUM SEARCH.

OBTAIN LOCATION FO FIRST  
FORVAL DRUM ENTRY, STORE IN  
LDA ADDRESS. PUT ZERO  
IN XRA AND GO TO  
SEARCH ROUTINE. UPON RETURN,  
ECIT UNLESS DELTA IS 2,  
IN WHICH CASE, CONTINUE  
TURN INDICATOR LIGHT ON  
THE FOLLOWING INSTR.  
SET UP TWO ADDITIONAL  
RANGES FOR SEARCHING,  
THOSE FORMULAS OUTSIDE  
OF DC BUT WITHIN DL.  
IN THESE SPECIAL RANGES  
AS SOON AS ONE ENTRY IS  
FOUND IN EITHER RANGE,

F2217840  
F2217850  
F2217860  
F2217870  
F2217880  
F2217890  
F2217900  
F2217910  
F2217920  
F2217930  
F2217940  
F2217950  
F2217960  
F2217970  
F2217980  
F2217990  
F2218000  
F2218010  
F2218020  
F2218030  
F2218040  
F2218050  
F2218060  
F2218070  
F2218080  
F2218090  
F2218100  
F2218110  
F2218120  
F2218130  
F2218140  
F2218150  
F2218160  
F2218170  
F2218180  
F2218190  
F2218200  
F2218210  
F2218220  
F2218230  
F2218240  
F2218250  
F2218260  
F2218270  
F2218280  
F2218290  
F2218300  
F2218310  
F2218320  
F2218330  
F2218340  
F2218350  
F2218360  
F2218370

06160	0	60100	0	03742	STO A
06161	-0	75400	2	00000	PXD 0,2
06162	0	40000	0	03765	ADD L(1)A
06163	0	60100	0	03745	STO LASTB
06164	0	50000	0	03742	CLA A
06165	0	40000	0	03752	ADD L(1)
06166	0	40200	0	03743	SUB B
06167	0	10000	0	06174	TZE DS4V10
06170	0	50000	0	06363	CLA 4VALAD
06171	0	60100	0	06362	STO FORAD
06172	-0	53400	1	03751	LXD L(0),1
06173	0	07400	4	06210	TSX FSXX,4
06174	0	50000	0	03744	CLA NEXTA DS4V10
06175	0	60100	0	03742	STO A
06176	0	50000	0	03745	CLA LASTB
06177	0	60100	0	03743	STO B
06200	0	40200	0	03742	SUB A
06201	0	10000	0	06207	TZE DS4V20
06202	0	76000	0	00144	PSE 100
06203	0	50000	0	06363	CLA 4VALAD
06204	0	60100	0	06362	STO FORAD
06205	-0	53400	1	03751	LXD L(0),1
06206	0	07400	4	06210	TSX FSXX,4
06207	0	02000	0	05555	TRA RELEND DS4V20
06210	-0	63400	4	06231	SXD FS28,4
06211	0	50000	0	03756	CLA L(5) FS00
06212	0	62200	0	06361	STD 4VLHL8
06213	0	76200	0	00302	RDS 194 FS05
06214	-0	53400	2	06300	LXD BS71,2
06215	0	46000	0	06362	LDA FORAD
06216	0	50000	0	03742	CLA A
06217	0	70000	0	06472	CPY BLOCK FS10
06220	0	04000	0	06232	TLQ FS30
06221	0	70000	0	06473	CPY BLOCK+1
06222	0	50000	0	03743	CLA B
06223	0	70000	0	06474	CPY BLOCK+2
06224	1	00003	1	06225	TXI FS20,1,3
06225	0	70000	2	06566	CPY BLOCK+60,2 FS20
06226	0	04000	0	06235	TLQ FS40
06227	0	40200	0	06472	SUB BLOCK FS25
06230	0	12000	0	06242	TPL FS50
06231	-3	00000	0	06353	TXL BS99,0 FS28
06232	0	70000	0	06473	CPY BLOCK+1 FS30
06233	0	70000	0	06474	CPY BLOCK+2
06234	1	00003	1	06217	TXI FS10,1,3
06235	0	70000	2	06567	CPY BLOCK+61,2 FS40
06236	0	70000	2	06570	CPY BLOCK+62,2
06237	2	00003	2	06225	TIX FS20,2,3
06240	-0	53400	2	03751	LXD L(0),2
06241	0	02000	0	06227	TRA FS25
06242	-0	63400	2	06255	SXD CS20,2 FS50
06243	-0	63400	2	06265	SXD BS40,2
06244	-0	63400	1	06262	SXD BS25,1
06245	-0	53400	2	03762	LXD L(60),2 CS00

TO BE DONE.

IF THIS RANGE IS EMPTY,  
SKIP SEARCH.

GO TO SEARCH ROUTINE  
A AND B FOR SECOND  
SPECIAL RANGE.

INITIALIZE

EXIT  
SAVE TSX INDEX  
ERROR COUNTER

FIND FIRST OR NEXT ADDRESS  
IN FORVAL,PUT A IN ACC.  
COPY FORMULA NR.  
A GREATER THAN FOR,NR.,TRA.  
A LESS,COPY BALANCE OF  
ENTRY,PUT B IN ACC,  
ADJUST XRA FOR THIS  
ENTRY.  
COPY NEXT FOR. NR.  
B GREAT THAN FOR. NR.,TRA.  
TEST FIRST ENTRY.  
B GREATER THAN F,TRA  
B LESS THAN F,EXIT  
COPY BALANCE OF ENTRY,GO  
BACK IF POSSIBLE TO CONTINUE  
SEARCH FOR BEGINNING OF RANGE,  
THIS ENTRY IS IN RANGE,  
CONTINUE READING IN ENTRIES  
UNTIL BLOCK FULL OR RANGE  
EXCEEDED.

THIS ROUTINE COMPUTES

F2218380  
F2218390  
F2218400  
F2218410  
F2218420  
F2218430  
F2218440  
F2218450  
F2218460  
F2218470  
F2218480  
F2218490  
F2218500  
F2218510  
F2218520  
F2218530  
F2218540  
F2218550  
F2218560  
F2218570  
F2218580  
F2218590  
F2218600  
F2218610  
F2218620  
F2218632  
F2218640  
F2218650  
F2218660  
F2218670  
F2218680  
F2218690  
F2218700  
F2218710  
F2218720  
F2218730  
F2218740  
F2218750  
F2218760  
F2218770  
F2218780  
F2218790  
F2218800  
F2218810  
F2218820  
F2218830  
F2218840  
F2218850  
F2218860  
F2218870  
F2218880  
F2218890  
F2218900  
F2218910

	06246	-0	50000	2	06566	CS10	CAL	BLOCK+60,2
	06247	0	36100	2	06567		ACL	BLOCK+61,2
	06250	0	60200	0	06364		SLW	4VALES
	06251	0	50000	0	06364		CLA	4VALES
	06252	0	40200	2	06570		SUB	BLOCK+62,2
	06253	-0	10000	0	06355		TNZ	4VLHLT
	06254	1	77775	2	06255		TXI	CS20,2,-3
D	06255	3	00000	2	06246	CS20	TXH	CS10,2
	06256	0	50000	0	03735	BS00	CLA	RSYM1
	06257	-0	53400	4	03732		LXD	DELTA,4
	06260	-0	53400	2	03762	BS10	LXD	L(60),2
	06261	0	34000	2	06567	BS20	CAS	BLOCK+61,2
D	06262	-3	00000	0	06264	BS25	TXL	BS30,0
	06263	0	02000	0	06272		TRA	BS60
	06264	1	77775	2	06265	BS30	TXI	BS40,2,-3
D	06265	3	00000	2	06261	BS40	TXH	BS20,2
	06266	-3	00002	4	06275	BS50	TXL	BS70,4,2
	06267	-0	53400	4	03751		LXD	L(0),4
	06270	0	50000	0	03736		CLA	RSYM2
	06271	0	02000	0	06260		TRA	BS10
	06272	-0	76000	0	00144	BS60	MSE	100
	06273	0	02000	0	06307		TRA	BS80
	06274	0	02000	0	06327		TRA	BS90
	06275	-0	53400	2	06265	BS70	LXD	BS40,2
	06276	3	00000	2	06353		TXH	BS99,2,0
	06277	-0	53400	1	06262		LXD	BS25,1
	06300	1	00071	1	06301	BS71	TXI	BS72,1,57
	06301	3	02733	1	06353	BS72	TXH	BS99,1,1499
	06302	-0	75400	1	00000		PXD	0,1
	06303	0	77100	0	00022		ARS	18
	06304	0	40000	0	06363		ADD	4VALAD
	06305	0	60100	0	06362		STO	FORAD
D	06306	-3	00000	0	06211	BS78	TXL	FS00,0
	06307	0	60100	0	06364	BS80	STO	4VALES
	06310	-0	53400	1	03722		LXD	XL,1
	06311	0	50000	0	04000		CLA	BITONE
	06312	-0	60200	1	00740		ORS	DOTAGZ+5,1
	06313	-0	53400	1	03674		LXD	XC,1
	06314	-0	60200	1	00740		ORS	DOTAGZ+5,1
	06315	0	50000	2	06566		CLA	BLOCK+60,2
	06316	0	60100	0	05063		STO	E1
	06317	0	50000	0	05067		CLA	TSXCOM
	06320	-0	63400	2	06326		SXD	BS85,2
	06321	-0	63400	4	06306		SXD	BS78,4
	06322	0	07400	4	05025		TSX	LIST,4
	06323	-0	53400	2	06326		LXD	BS85,2
	06324	-0	53400	4	06306		LXD	BS78,4
	06325	0	50000	0	06364		CLA	4VALES
TD	06326	-3	00000	0	06264	BS85	TXL	BS30
	06327	-0	53400	2	03722	BS90	LXD	XL,2
	06330	0	50000	0	04000		CLA	BITONE
	06331	-0	60200	2	00740		ORS	DOTAGZ+5,2
	06332	-0	53400	2	03750		LXD	LOWPOS,2
	06333	0	50000	0	03751		CLA	L(0)

THE CHECK SUMS OF THE  
ENTRIES AND COMPARES

THEM WITH THE GIVEN CHECK  
SUMS.  
TRA TO EXIT IF BAD ENTRY.

CONTINUE WITH BS00  
THIS ROUTINE SEARCHES  
THE STORAGE BLOCK FOR  
RSYM1,AND RSYM2 IF DELTA  
IS THREE.

EQUALITY FOUND,TRA.  
RE-ENTRY

TEST TO SEE IF  
NORMAL SEARCH,OR IF  
SPECIAL CASE OF DELTA TWO.  
BLOCK SEARCH DONE. IF BLOCK  
WAS NOT FULL,EXIT.  
OTHERWISE,PREPARE TO CONTINUE  
SEARCH,IF MORE ENTRIES IN FORVAL.

AND COMPUTE  
NEW FORVAL  
ADDRESS

GO BACK TO CONTINUE SEARCH  
RSYM FOUND,ARRANGE TO  
SAVE INDEXED SUBSCRIPTS.

RSYM FOUND,E2 PREVIOUSLY  
PREPARED,NOW PREPARE  
E1,SAVE ACC,XRB,XRC,  
AND LIST.  
AFTER LISTING,  
RESTORE ACC,XRB,XRC  
AND RETURN TO CONTINUE  
SEARCH.

SPECIAL CASE,DELTA TWO,  
PUT IN BIT TO SAVE SL

OBTAIN INDEX QUANTITY 1, 3, 5.  
FOR XL,

F2218920  
F2218930  
F2218940  
F2218950  
F2218960  
F2218970  
F2218980  
F2218990  
F2219000  
F2219010  
F2219020  
F2219030  
F2219040  
F2219050  
F2219060  
F2219070  
F2219080  
F2219090  
F2219100  
F2219110  
F2219120  
F2219130  
F2219140  
F2219150  
F2219160  
F2219170  
F2219180  
F2219190  
F2219200  
F2219210  
F2219220  
F2219230  
F2219240  
F2219250  
F2219260  
F2219270  
F2219280  
F2219290  
F2219300  
F2219310  
F2219320  
F2219330  
F2219340  
F2219350  
F2219360  
F2219370  
F2219380  
F2219390  
F2219400  
F2219410  
F2219420  
F2219430  
F2219440  
F2219450

D  
A  
A

D

```

06334 0 60100 2 03721 STO X1+5,2
06335 0 60100 2 03722 STO X1+6,2
06336 2 00001 2 06337 TIX BS91,2,1
06337 -0 75400 2 00000 BS91 PXD 0,2
06340 -0 60200 0 03727 BS92 ORS DORC
06341 0 76000 0 00006 COM
06342 0 32000 0 03731 ANS DOSUBS
06343 0 50000 0 03674 CLA XC
06344 0 60100 0 03722 STO XL
06345 0 50000 0 03675 CLA LC
06346 0 60100 0 03723 STO LL
06347 0 50000 0 03752 CLA L(1)
06350 0 60100 0 03726 STO NRDS
06351 0 60100 0 03732 STO DELTA
06352 0 02000 0 06207 TRA DS4V20
06353 -0 53400 4 06231 BS99 LXD FS28,4
06354 0 02000 4 00001 TRA 1,4
06355 -0 53400 2 06361 4VLHLT LXD 4VLHL8,2
06356 2 00001 2 06360 TIX 4VLHL4,2,1
06357 0 07400 4 00004 4VLHL2 TSX DIAG,4 WILL BE REREAD 5 TIMES. (ERROR. GO TO DIAGNOSTIC.)
06360 -0 63400 2 06361 4VLHL4 SXD 4VLHL8,2
06361 -3 00000 0 06213 4VLHL8 TXL FS05,0
06362 0 00000 0 00000 FORAD HTR
06363 0 00000 0 00312 4VALAD HTR 202
06364 0 00000 0 00000 4VALES HTR
06365 0 00000 0 00000 XR1
06366 0 00000 0 00000 LR1
06367 0 00000 0 00000 XR2
06370 0 00000 0 00000 LR2
06371 0 00000 0 00000 D2D1
06372 0 00000 0 00000 D3D1
06373 0 00000 0 00000 D3D2
06374 0 00000 0 00000 TR1
06375 0 00000 0 00000 TR2

SUBROUTINE GETNAM
06376 -0 53400 1 04011 GETNAM LXD NAMXX,1
06377 -0 63400 1 06406 SXD GETN20,1
06400 0 53400 1 04011 LXA NAMXX,1
06401 0 02000 0 06406 TRA GETN20
06402 0 34000 1 07301 GETN05 CAS NAMZ,1
06403 0 02000 0 06405 TRA GETN10
06404 0 02000 0 06411 TRA GETN30
06405 1 77776 1 06406 GETN10 TXI GETN20,1,-2
06406 3 00000 1 06402 GETN20 TXH GETN05,1
06407 -0 32000 0 03773 ANA ADDMSK
06410 0 02000 4 00001 TRA 1,4
06411 0 50000 1 07302 GETN30 CLA NAMZ+1,1
06412 0 02000 4 00001 TRA 1,4

SUBROUTINE ADDSER
06413 -0 75400 1 00000 ADDSER PXD 0,1
06414 0 40000 0 03700 ADD TAG
06415 -0 53400 1 04006 LXD ADTXX,1
06416 -0 63400 1 06425 SXD ADS030,1
06417 0 53400 1 04006 LXA ADTXX,1

```

SET PROPER X AND L TO ZERO,  
ADJUST 1,3,5 TO 1,2,4,  
PUT IN ACC  
AND PUT BIT IN DORC  
REMOVE BIT  
FROM DOSUBS

EXIT  
EXIT FROM FSXX ENTRY

IF THERE IS AN ERROR IN THE  
CHECK SUM ROUTINE,THE BLOCK  
BEFORE THE MACHINE STOPS.

DRUM ADDRESS FOR LDA INSTR.

E.S.

THIS ROUTINE SEARCHES  
TABLE NAMZ FOR THE NAME  
OF TAU TAG IN A PARTICULAR

DO FORMULA.

PREPARE XRA AND DEC 0  
ADS030 FOR TABLE SEARCH.

F2219460  
F2219470  
F2219480  
F2219490  
F2219500  
F2219510  
F2219520  
F2219530  
F2219540  
F2219550  
F2219560  
F2219570  
F2219580  
F2219590  
F2219600  
F2219610  
F2219620  
F2219630  
F2219640  
F2219655  
F2219660  
F2219670  
F2219680  
F2219690  
F2219700  
F2219710  
F2219720  
F2219730  
F2219740  
F2219750  
F2219760  
F2219770  
F2219780  
F2219790  
F2219800  
F2219810  
F2219820  
F2219830  
F2219840  
F2219850  
F2219860  
F2219870  
F2219880  
F2219890  
F2219900  
F2219910  
F2219920  
F2219930  
F2219940  
F2219950  
F2219960  
F2219970  
F2219980  
F2219990

06420 0 02000 0 06425 TRA ADS030  
 06421 0 34000 1 07135 ADS010 CAS ADTAGZ,1  
 06422 0 02000 0 06424 TRA ADS020  
 06423 0 02000 0 06427 TRA ADS040  
 06424 1 77776 1 06425 ADS020 TXI ADS030,1,-2  
 06425 3 00000 1 06421 ADS030 TXH ADS010,1  
 06426 0 02000 4 00002 TRA 2,4  
 06427 0 50000 1 07136 ADS040 CLA ADTAGZ+1,1  
 06430 0 02000 4 00001 ADS050 TRA 1,4

TRA FOR EMPTY TABLE TEST

FIRST WORD FOUND

NOT FOUND

# SUBROUTINES STORES AND STORXX

06431 -0 63400 4 06464 STORES SXD ST040,4  
 06432 0 50000 0 06366 CLA LR1  
 06433 0 77100 0 00022 ARS 18  
 06434 0 40000 0 03675 ADD LC  
 06435 0 60100 0 05064 STO E2  
 06436 0 50000 0 06374 CLA TR1  
 06437 -3 00001 2 06441 TXL ST020,2,1  
 06440 0 50000 0 06375 CLA TR2  
 06441 0 76700 0 00022 ST020 ALS 18  
 06442 0 40000 0 03701 ADD TS  
 06443 0 60100 0 05065 STO E3  
 06444 -3 00000 2 06460 TXL ST035,2,0  
 06445 -3 00001 2 06465 TXL ST050,2,1  
 06446 0 02000 0 06460 TRA ST035  
 06447 -0 63400 4 06464 STORXX SXD ST040,4  
 06450 0 50000 0 06370 CLA LR2  
 06451 0 77100 0 00022 ARS 18  
 06452 0 40000 0 06366 ADD LR1  
 06453 0 60100 0 05064 STO E2  
 06454 0 50000 0 06375 CLA TR2  
 06455 0 76700 0 00022 ALS 18  
 06456 0 40000 0 06374 ADD TR1  
 06457 0 60100 0 05065 STO E3

THIS ROUTINE PREPARES  
 AN ENTRY FOR TABLE TRASTO  
 AND USES LIST TO ENTER  
 THE ENTRY ON THE PROPER  
 DRUM TABLE. IF SPC000  
 IS USED BY THE ROUTINE,  
 MANY ENTRIES MAY BE MADE  
 IN TRA STO.  
 IF DELTA EQUALS ONE OR TWO,  
 THIS ROUTINE IS ENTERED  
 THROUGH STORES WITH C(XRB)  
 ZERO. IF DELTA IS THREE  
 AND WE ARE WORKING ON  
 TRANSFERS DR2 TO DS, THEN  
 STORES ENTRY IS USED WITH  
 C(XRB)=2  
 IF DELTA=3, TRA DR1 TO DS,  
 STORES ENTRY IS USED WITH  
 C(XRB)=1  
 IF DELTA=3, TRA DR2 TO DR1,  
 ENTRY STORXX IS USED.  
 C(XRB) NOT USED.  
 LIST ROUTINE IS USED IN  
 EVERY CASE, MAKING ONE  
 TRASTO ENTRY, EXCEPT FOR  
 CASE DELTA=3, TRA DR1 TO DS,  
 C(XRB)=1, WHEN SPC000 IS USED.  
 LIST ROUTINE USED

06460 0 50000 1 00733 ST035 CLA DOTAGZ,1  
 06461 0 60100 0 05063 STO E1  
 06462 0 50000 0 05070 CLA TRASTO  
 06463 0 07400 4 05025 TSX LIST,4  
 06464 -3 00000 0 06470 ST040 TXL ST100,0  
 06465 -0 53400 2 03753 ST050 LXD L(2),2  
 06466 0 50000 0 05070 CLA TRASTO  
 06467 0 07400 4 05277 TSX SPC000,4  
 06470 -0 53400 4 06464 ST100 LXD ST040,4  
 06471 0 02000 4 00001 TRA 1,4  
 06472 BLOCK BSS 60  
 07730 ORG 4056

SPC000 USED.

EXIT

MASTER RECORD CARD = FN029

07730 -0 53400 2 07770 PPONG LXD PG80,2  
 07731 0 02000 0 07733 TRA PG10  
 07732 -0 53400 2 07767 LXD PG70,2  
 07733 -0 53400 4 07771 PG10 LXD PG90,4

ROUTINE PPONG SETS UP DRUM ONE FOR  
 PING-PONGING.

F2220000  
 F2220010  
 F2220020  
 F2220030  
 F2220040  
 F2220050  
 F2220060  
 F2220070  
 F2220080  
 F2220090  
 F2220100  
 F2220110  
 F2220120  
 F2220130  
 F2220140  
 F2220150  
 F2220160  
 F2220170  
 F2220180  
 F2220190  
 F2220200  
 F2220210  
 F2220220  
 F2220230  
 F2220240  
 F2220250  
 F2220260  
 F2220270  
 F2220280  
 F2220290  
 F2220300  
 F2220310  
 F2220320  
 F2220330  
 F2220340  
 F2220350  
 F2220360  
 F2220370  
 F2220380  
 F2220390  
 F2220400  
 F2220410  
 F2220420  
 F2220430  
 F2220440  
 F2220450  
 F2220460  
 F2220470  
 F2220480  
 F2220485  
 F2220490  
 F2220500  
 F2220510  
 F2220520

07734	0	76600	0	00301	PG15	WRS	193		F2220530
07735	-0	53400	1	07772		LXD	PG95,1		F2220540
07736	0	46000	2	07767		LDA	PG60+2,2		F2220550
07737	0	70000	1	06566	PG20	CPY	CORES,1		F2220560
07740	2	00001	1	07737		TIX	PG20,1,1		F2220570
07741	0	76600	0	00333		WRS	219		F2220580
07742	0	76200	0	00301		RDS	193		F2220590
07743	-0	53400	1	07772		LXD	PG95,1		F2220600
07744	0	46000	2	07767		LDA	PG60+2,2		F2220610
07745	0	70000	1	05566	PG30	CPY	CORES,1		F2220620
07746	2	00001	1	07745		TIX	PG30,1,1		F2220630
07747	-0	53400	1	07772		LXD	PG95,1		F2220640
07750	-0	75400	0	00000		PXD	0,0	PG40-1	F2220650
07751	0	36100	1	05566	PG40	ACL	CORES,1		F2220660
07752	2	00001	1	07751		TIX	PG40,1,1		F2220670
07753	0	60200	0	07773		SLW	PG99		F2220680
07754	0	50000	0	07773		CLA	PG99		F2220690
07755	0	40200	2	07765		SUB	PG50+2,2		F2220700
07756	0	10000	0	07761		TZE	NORMRP		F2220715
07757	2	00001	4	07734		TIX	PG15,4,1		F2220720
07760	0	07400	4	00004		TSX	DIAG,4	DRUM READ	ERROR. GO TO DIAGNOSTIC.
07761	0	76200	0	00221	NORMRP	RDS	145	SKIP OVER DIAGNOSTIC RECORD ON SYSTEM TAPE.	F2220735
07762	0	02000	0	00004		TRA	ONETCS	GO TO ONE TO CS (MONITOR)=	F2220736
07763	+103075525444				PG50	OCT	103075525444	CHECK SUM, STATE B, RELCON	F2220737
07764	-246744643200					OCT	-246744643200	CHECK SUM STATE A, NORMAL	F2220744
07765	+0000000001000				PG60	OCT	1000		F2220754
07766	+0000000000000					OCT			F2220760
07767	+0000010000000				PG70	OCT	1000000		F2220770
07770	+0000020000000				PG80	OCT	2000000		F2220780
07771	+0000050000000				PG90	OCT	5000000		F2220790
07772	+0010000000000				PG95	OCT	10000000000		F2220805
07773	0	00000	0	00000	PG99	HTR			F2220810
07774	-0	63400	1	77777	BURNCE	SXD	TOP,1	DRUM OVERFLOW	F2220820
07775	0	02000	0	00004		TRA	DIAG	ERROR PROCEDURE.	F2220825
				77777	TOP	EQU	32767		F2220826
				00222	TAPE2	EQU	146		F2220827
				00223	DOTAPE	EQU	147		F2220830
				00224	ATAPE	EQU	148		F2220840
				00301	PPDRM	EQU	193		F2220850
				00303	ADRUM	EQU	195		F2220860
				00304	TAUDRM	EQU	196		F2220870
				00141	TL	EQU	97		F2220880
				05565	RELWDS	SYN	RELDRA+1		F2220890
				04003	ABIT	SYN	BIT18		F2220900
				04005	BBIT	SYN	BIT20		F2220910
				04003	SUBBIT	SYN	BIT18		F2220920
				06566	CORES	SYN	CORES+512		F2220930
				00004	ONETCS	EQU	4		F2220940
				00004	DIAG	EQU	4		F2220945
				00000		END			F2220950

1  
1

REM BLOCK THREE OF SECTION TWO.

BLOCK THREE OF SECTION TWO.

MASTER RECORD CARD = FN036

BLOCK 3 DOES SUBSCRIPT ANALYSIS FOR  
THOSE SUBSCRIPT COMBINATIONS NO SUBSCRIPT  
ELEMENT OF WHICH IS UNDER CONTROL OF  
A DO (PURE RELATIVE CONSTANTS). TWO  
TYPES OF TSXCOM TABLE ENTRIES ARE MADE IN ROUTINE FOUND  
WHICH WILL INDICATE TO SUCCEEDING BLOCKS THE NECESSITY TO  
COMPILE EITHER DIRECT LXDS OF INDEX REG VALUES OR TSXS TO  
SUBROUTINES TO COMPUTE THOSE INDEX REG VALUES. FOUR TYPES OF  
TRASTO TABLE ENTRIES ARE MADE WHICH WILL INDICATE THAT  
CERTAIN INDEXING INSTRUCTIONS SHOULD BE COMPILED ACCOMPANYING  
THE TRANSFERS OUT OF THE RANGE OF DOS WHICH DEFINE VALUES  
OF THE SUBSCRIPTS IN QUESTION. FINALLY, TSXCOM ENTRIES AND  
TABLE IRV ENTRIES ARE SORTED AND WRITTEN ON DRUM. ROUTINES  
ENCOUNTERED IN BLOCK 2 WILL BE RECOGNIZED IN THIS BLOCK 3 -  
SUBCOM, TRAWORD, SPC, TINFOR, LIST.

00031	ORG	25		F2300004
00031	NAME	BSS 1	TABLE STORAGE	F2300006
00032		BSS 449		F2300010
00733	NAMZ	BSS 1		F2300020
00734	FORTAG	BSS 1		F2300030
00735		BSS 1499		F2300040
03670	FORTZ	BSS 1		F2300050
03671	FORVAL	BSS 1		F2300060
03672		BSS 1499		F2300070
06625	4VALZ	BSS 1		F2300080
00031	ORG	25		F2300090
00031	TCOM	BSS 1		F2300100
00032		BSS 749		F2300110
01407	TCOMZ	BSS 1		F2300120
03671		ORG 1977		F2300130
03671	DOTAG	BSS 1		F2300140
03672		BSS 1349		F2300150
06377	DOTAGZ	BSS 1		F2300160
06400		BSS 149		F2300170
06625	IRVZ	BSS 1		F2300180
06626	TAG	BSS 1	ADDRESS HAS FORTAG IX CURRENT	F2300190
06627	TS	BSS 1	NEW NAME	F2300200
06630	TAGIND	BSS 1	ONE IF SOLITARY SUB COEFF ONE, OTHERWISE ZERO	F2300210
06631	DELTA	BSS 1	COUNT OF NO OF SYMBOLS IN SUB COMB	F2300220
06632	RSYM1	BSS 1	WORKING SYMBOL ONE	F2300230
06633	RSYM2	BSS 1	WORKING SYMBOL TWO	F2300240
06634	RSYM3	BSS 1	WORKING SYMBOL THREE	F2300250
06635	C1	BSS 1	COEFF FIRST SYMBOL	F2300260
06636	S1	BSS 1	FIRST SYMBOL	F2300270
06637	C2	BSS 1	COEFF 2ND SYMBOL	F2300280
06640	S2	BSS 1	2ND SYMBOL	F2300290
06641	C3	BSS 1	COEFF 3RD SYMBOL	F2300300
06642	S3	BSS 1	3RD SYMBOL	F2300310
06643	D1	BSS 1	DIM 1ST SYM, IF TWO-DIMENSIONAL	F2300320
06644	D2	BSS 1	DIM 2ND SYM, IF THREE-DIMENSIONAL	F2300330
06645	TL2	BSS 1	LEVEL DOTAG MATCHING SUBSCRIPT SYMBOL	F2300340
				F2300350
				F2300360
				F2300370
				F2300380
				F2300390
				F2300400
				F2300410
				F2300420
				F2300430
				F2300440
				F2300450
				F2300460
				F2300470
				F2300480
				F2300490
				F2300500

06646	XR1	BSS	1	IX DOTAG MATCHING FIRST SUB SYMBOL (RSYM1)	F2300510
06647	LR1	BSS	1	LEV DOTAG MATCHING 1ST SUB SYMB (RSYM1)	F2300520
06650	NEXTR1	BSS	1	IX LAST DOTAG OF NEST SEARCHED IN TRAWRD 1ST LVF	F2300530
06651	XR2	BSS	1	IX DOTAG MATCHING 2ND SUB SYMB (RSYM2)	F2300540
06652	LR2	BSS	1	LEV DOTAG MATCHING 2ND SUB SYMB (RSYM2)	F2300550
06653	NEXTR2	BSS	1	IX LAST DO OF NEST SRCHD IN TRAWORD ON 2ND LEV	F2300560
06654	XR3	BSS	1	IX DOTAG MATCHING THIRD SUB SYMB (RSYM3)	F2300570
06655	NEXTR3	BSS	1	IX LAST DO OF NEST SRCHD IN TRWRD ON 3RD LEVEL	F2300580
06656	SKIP	BSS	1	SKIP, ZERO OR 1	F2300590
06657	TRABIT	BSS	1	TRAWORD TEMP STORAGE	F2300600
06660	NEXTA	BSS	1	INTERMEDIATE UPPER LIMIT OF RANGE	F2300610
06661	LASTB	BSS	1	INTERMEDIATE LOWER LIMIT OF RANGE	F2300620
06662	A	BSS	1	UPPER LIMIT OF RANGE	F2300630
06663	B	BSS	1	LOWER LIMIT OF RANGE	F2300640
06664	IRVXX	BSS	1	CURRENT TABLE IRV I.R. VALUE	F2300650
06665	0 00000 0 00000	L(0)	0,0,0		F2300660
06666	0 00001 0 00000	L(1)	0,0,1		F2300670
06667	0 00002 0 00000	L(2)	0,0,2		F2300680
06670	0 00003 0 00000	L(3)	0,0,3		F2300690
06671	0 00006 0 00000	L(6)	0,0,6		F2300700
06672	0 00044 0 00000	L(36)	0,0,36		F2300710
06673	0 02506 0 00000	L(1350)	0,0,1350		F2300720
06674	0 02734 0 00000	L(1500)	0,0,1500		F2300730
06675	+0000000000001	L(1)A	OCT 1		F2300740
06676	-0 00000 0 00000	L(MZ)	MZE		F2300750
06677	+2000000000000	BITONE	OCT 2000000000000		F2300760
06700	+0000004000000	BIT18	OCT 400000		F2300770
06701	+1777777777777	34ONES	OCT 1777777777777		F2300780
06702	+3777777777777	35ONES	OCT 3777777777777		F2300790
06703	+0000000777777	ADDMSK	OCT 77777		F2300800
06704	+0777770000000	DECMSK	OCT 77777000000		F2300810
06705	-2000000000000	PREMSK	OCT -2000000000000		F2300820
06706	0 00000 0 00312	DRMADD	202	DRUM ORIGIN OF FORVAL TABLE	F2300830
06707	0 00000 0 01760	NAMORG	1008	DRUM ORIGIN OF NAME TABLE	F2300840
06710	0 00000 0 00031	NAMAD	NAME	CORE ORIGIN OF NAME TABLE	F2300850
06711	0 00702 0 00000	NAMAX	0,0,450	MAXIMUM WORDS IN NAME TABLE	F2300860
06712	0 00000 0 02430	IRVORG	1304	DRUM ORIGIN OF WD COUNT TABLE IRV	F2300870
06713	0 00000 0 06377	IRVAD	IRV	CORE ORIGIN OF IRV TABLE	F2300880
06714	0 00226 0 00000	IRVMAX	0,0,150	MAXIMUM WORDS IN IRV TABLE	F2300890
06715	0 00000 0 01300	TCOMOR	704	DRUM ORIGIN OF WD COUNT, TABLE TCOM	F2300900
06716	0 00000 0 01302	TSXORG	706	DRUM ORIGIN OF TSXCOM TABLE	F2300910
06717	0 00000 0 00031	TCOMAD	TCOM	CORE ORIGIN OF TCOM TABLE	F2300920
06720	0 01356 0 00000	TCOMAX	0,0,750		F2300930
06721	0 50000 0 07776	BLOCK3	CLA 4094	TSXCOM CARRYOVER FROM BLOCK TWO	F2300940
06722	0 60100 0 07667		STO LADDS	EQUAL TO LAST TABLE ENTRY PLUS ONE.	F2300950
06723	0 50000 0 07775		CLA 4093	TRASTO CARRYOVER FROM BLOCK TWO	F2300960
06724	0 60100 0 07670		STO LADDS+1	EQUAL TO LAST TABLE ENTRY PLUS ONE.	F2300970
06725	0 50000 0 06714		CLA IRVMAX	INITIALIZE IRVXX.	F2300980
06726	0 60100 0 06664		STO IRVXX	EQUAL TO ETC.	F2300990
06727	-0 53400 1 00733		LXD FORTAG-1,1	IF FORTAG EMPTY,	F2301000
06730	3 02733 1 07616		TXH NORMRT,1,1499	NORM RET MONITOR. GO TO SPACE TAPE 1.	F2301015
06731	-0 53400 2 06671	NAMRD	LXD L(6),2	INITIALIZE EERROR COUNTER.	F2301022
06732	0 50000 0 07777	NAM10	CLA 4095	OBTAIN NAME ADDRESS CARRYOVER FROM BLOCK 2	F2301030
06733	0 40200 0 06707	SUB	NAMORG	FROM BLOCK TWO.	F2301040



06734	0	73400	1	00000	PAX 0,1		F2301050
06735	-3	00000	1	06766	TXL NAM95,1,0	IF NO TABLE NAME, GO TO READ IN FORVAL.	F2301060
06736	0	76200	0	00303	RDS ADRUM	READ IN TABLE NAME.	F2301070
06737	0	40000	0	06710	ADD NAMAD	ADD CORE ORG TABLE NAME TO COMP TERMINUS AND	F2301080
06740	0	62100	0	06746	STA NAM60	STORE IN COPY ADDRESS.	F2301090
06741	-0	75400	1	00000	PXD 0,1		F2301100
06742	-0	76000	0	00003	SSM		F2301110
06743	0	40000	0	06711	ADD NAMAX	DIFF BETWEEN MAX NO ENTRIES AND ACTUAL NO.	F2301120
06744	0	60100	0	00030	STO NAME-1		F2301130
06745	0	46000	0	06707	LDA NAMORG	DRUM ORG	F2301140
06746	0	70000	1	00000	CPY 0,1		F2301150
06747	2	00001	1	06746	TIX NAM60,1,1		F2301160
06750	-0	53400	1	00030	LXD NAME-1,1		F2301170
06751	-0	63400	1	06762	SXD NAM80,1		F2301180
06752	-0	53400	1	06711	LXD NAMAX,1		F2301190
06753	-0	50000	1	00733	CAL NAMZ,1	COMPUTE CHECK SUM	F2301200
06754	0	36100	1	00734	ACL NAMZ+1,1	FOR	F2301210
06755	0	60200	0	06771	SLW NAMES1	EACH	F2301220
06756	0	50000	0	06771	CLA NAMES1	TABLE ENTRY,	F2301230
06757	0	40200	1	00735	SUB NAMZ+2,1	AND COMPARE	F2301240
06760	-0	10000	0	06764	TNZ NAM90	SAME.	F2301250
06761	1	77775	1	06762	TXI NAM80,1,-3		F2301260
06762	3	00000	1	06753	TXH NAM70,1		F2301270
06763	0	02000	0	06772	TRA BEGIN	TABLE NAME ALL IN.	F2301280
06764	2	00001	2	06732	TIX NAM10,2,1		F2301290
06765	0	07400	4	00004	TSX DIAG,4	READ NAME TABLE.	F2301305
06766	0	50000	0	06711	CLA NAMAX	TABLE NAME EMPTY.	F2301310
06767	0	60100	0	00030	STO NAME-1	ERROR. GO TO DIAGNOSTIC.	F2301320
06770	0	02000	0	06772	TRA BEGIN		F2301330
06771	0	00000	0	00000	NAMES1 HTR	TEMP STORAGE	F2301340
06772	-0	76000	0	00144	BEGIN MSE LIGHT	TEST FOR EMPTY FORVAL	F2301350
06773	0	02000	0	06776	TRA CPYLP		F2301360
06774	0	76000	0	00144	PSE LIGHT	IF EMPTY,	F2301370
06775	0	02000	0	07616	TRA NORMRT	NORM RET MONITOR. GO TO SPACE TAPE 1	F2301385
06776	-0	53400	2	06671	LXD L(6),2	READ IN FORVAL	F2301392
06777	0	76200	0	00302	RDSDRM RDS BDRUM		F2301400
07000	0	50000	0	06701	CLA 34ONES	PUT DRUM MARK IN ACC.	F2301410
07001	0	46000	0	06706	LDA DRMADD		F2301420
07002	-0	53400	1	06674	LXD L(1500,1		F2301430
07003	0	70000	1	06625	CPYONE CPY 4VALZ,1	PULL IN FIRST WORD OF FORVAL.	F2301440
07004	0	04000	0	07006	TLQ CPYTWO	TEST FOR DRUM MARK.	F2301450
07005	0	02000	0	07012	TRA CHKSUM		F2301460
07006	0	70000	1	06626	CPYTWO CPY 4VALZ+1,1	PULL IN 2ND WORD OF FORVAL,	F2301470
07007	0	70000	1	06627	CPY 4VALZ+2,1	AND CHECK SUM.	F2301480
07010	2	00003	1	07003	TIX CPYONE,1,3		F2301490
07011	-0	53400	1	06665	LXD L(0),1		F2301500
07012	-0	63400	1	03670	CHKSUM SXD FORVAL-1,1	COMPUTE AND	F2301510
07013	-0	63400	1	07024	SXD NEXT,1	COMPARE	F2301520
07014	-0	53400	1	06674	LXD L(1500,1	CHECK	F2301530
07015	-0	50000	1	06625	CSLOOP CAL 4VALZ,1	SUMS.	F2301540
07016	0	36100	1	06626	ACL 4VALZ+1,1		F2301550
07017	0	60200	0	07030	SLW COMCS		F2301560
07020	0	50000	0	07030	CLA COMCS		F2301570
07021	0	40200	1	06627	SUB 4VALZ+2,1		F2301580

	07022	-0	10000	0	07026	TNZ ERROR		F2301590
	07023	1	77775	1	07024	TXI NEXT,1,-3		F2301600
D	07024	3	00000	1	07015	NEXT TXH CSLOOP,1		F2301610
	07025	0	02000	0	07031	TRA 2WDDO	FORVAL ALL IN.	F2301620
	07026	2	00001	2	06777	ERROR TIX RDSDRM,2,1		F2301630
	07027	0	07400	4	00004	TSX DIAG,4	DRUM REAAD FORVAL TABLE. ERROR. GO TO DIAGNOSTIC.	F2301645
A	07030	0	00000	0	00000	COMCS HTR		F2301650
	07031	-0	53400	4	06671	2WDDO LXD L(6),4	ERROR COUNTER.	F2301662
	07032	0	77200	0	00223	2WD05 REW TAPE3	PREPARE TO READ IN DOTAG.	F2301670
	07033	-0	53400	1	07071	LXD L(300),1		F2301680
	07034	-0	76000	0	00143	MSE 99	TEST FOR EMPTY DOTAG.	F2301690
	07035	0	02000	0	07040	TRA 2WD10		F2301700
	07036	0	76000	0	00143	PSE 99		F2301710
	07037	0	02000	0	07062	TRA 2WD70		F2301720
	07040	-0	76000	0	00012	2WD10 RTT		F2301730
	07041	0	76100	0	00000	NOP		F2301740
	07042	0	76200	0	00223	2WD20 RDS TAPE3	PULL	F2301750
	07043	-0	53400	2	07072	2WD30 LXD L(7),2	IN	F2301760
	07044	0	70000	1	07570	CPY DOZ,1	DOTAG	F2301770
	07045	0	02000	0	07050	TRA 2WD40	BUT	F2301780
	07046	0	02000	0	07062	TRA 2WD70	ONLY	F2301790
	07047	0	02000	0	07042	TRA 2WD20	THE	F2301800
	07050	0	70000	1	07571	2WD40 CPY DOZ+1,1	FIRST	F2301810
	07051	0	02000	0	07054	TRA 2WD50	TWO	F2301820
	07052	0	07400	4	00004	TSX DIAG,4	WORDS	ERROR. GO TO DIAGNOSTIC. F2301835
	07053	0	07400	4	00004	TSX DIAG,4	OF	ERROR. GO TO DIAGNOSTIC. F2301845
	07054	0	70000	0	07073	2WD50 CPY ESXX	EACH	F2301850
	07055	0	02000	0	07060	TRA 2WD60	TABLE	F2301860
	07056	0	07400	4	00004	TSX DIAG,4	ENTRY.	ERROR. GO TO DIAGNOSTIC. F2301875
	07057	0	07400	4	00004	TSX DIAG,4		ERROR. GO TO DIAGNOSTIC. F2301885
	07060	2	00001	2	07054	2WD60 TIX 2WD50,2,1		F2301890
	07061	1	77776	1	07043	TXI 2WD30,1,-2		F2301900
	07062	-0	63400	1	07570	2WD70 SXD DOZ,1		F2301910
	07063	0	76600	0	00333	WRS 219		F2301920
	07064	-0	76000	0	00012	RTT		F2301930
	07065	0	02000	0	07067	TRA 2WD80	READ ERROR.	F2301940
	07066	0	02000	0	07616	TRA NORMRT	NORM RET MONITOR. GO TO SPACE TAPE 1	F2301955
	07067	2	00001	4	07032	2WD80 TIX 2WD05,4,1		F2301960
	07070	0	07400	4	00004	TSX DIAG,4	TAPE 3 READING DOTAG, ERROR. GO TO DIAGNOSTIC.	F2301975
	07071	0	00454	0	00000	L(300)	0,0,300	F2301980
	07072	0	00007	0	00000	L(7)	0,0,7	F2301990
A	07073	0	00000	0	00000	ESXX HTR	TEMP STORAGE.	F2302000
							MASTER RECORD CARD = FN037	F2302005
					07614	ORG 3980		F2302010
	07614	-0	63400	1	77777	BURNCE SXD TOP,1	DRUM OVERFLOW	F2302011
	07615	0	02000	0	00004	TRA DIAG	ERROR PROCEDURE	F2302012
							THE 2 WD SUBRT NORMRT SPACES TAPE 1 PAST THE DIAGNOSTIC REC.	F2302016
	07616	0	76200	0	00221	NORMRT RDS 145	SKIP OVER DIAGNOSTIC RECORD ON SYSTEM TAPE.	F2302017
	07617	0	02000	0	00004	TRA ONETCS	GO TO ONE TO CS (MONITOR)	F2302018
	07620	-0	63400	4	07653	LIST SXD LIST40,4	SAVE LINKAGE	F2302030
	07621	-0	73400	1	00000	PDX 0,1	PUT INDEX QUANTITY IN XRA	F2302040
	07622	0	73400	6	00000	PAX 0,6	PUT NR. OF WDS IN XRB,XRC.	F2302050
	07623	0	40000	0	07654	ADD LIST50	COMPUTE NR. OF WRDS	F2302060
	07624	0	62100	0	07641	STA LIST30	PLUS ORIGIN E1 AND	F2302070

07625	0	62100	0	07634	STA LIST20	INITIALIZE ADDRESSES.	F2302080
07626	0	50000	1	07701	CLA LADDIN+5,1	TEST	F2302090
07627	0	77100	0	00022	ARS 18	FOR	F2302100
07630	0	40200	1	07674	SUB LADDS+5,1	FULL	F2302110
07631	-0	10000	0	07633	TNZ LIST10	TABLE.	F2302120
07632	0	07400	4	07614	TSX BURNCE,4	DRUM OVERFLOW, GO SAVE IRA BEFORE DIAG.	F2302135
07633	-0	75400	0	00000	LIST10 PXD 0,0	ZERO IN ACC.	F2302140
07634	0	36100	2	00000	LIST20 ACL 0,2	COMPUTE	F2302150
07635	2	00001	2	07634	TIX LIST20,2,1	ENTRY	F2302160
07636	0	76600	0	00303	WRS ADRUM	SELECT DRUM.	F2302165
07637	0	60200	0	07655	SLW LIST60	CHECK SUM.	F2302170
07640	0	46000	1	07674	LDA LADDS+5,1	COPY	F2302180
07641	0	70000	4	00000	LIST30 CPY 0,4	ENTRY	F2302190
07642	2	00001	4	07641	TIX LIST30,4,1	AND	F2302200
07643	0	70000	0	07655	CPY LIST60	CHECK SUM.	F2302210
07644	0	50000	1	07674	CLA LADDS+5,1	COMPUTE	F2302220
07645	0	40000	1	07667	ADD TSXCOM+5,1	NEXT	F2302230
07646	0	40000	0	06675	ADD L(1)A	ENTRY	F2302240
07647	-0	32000	0	06703	ANA ADDMSK	ADDRESS.	F2302250
07650	0	60100	1	07674	STO LADDS+5,1		F2302260
07651	-0	53400	4	07653	LXD LIST40,4	EXIT	F2302270
07652	0	02000	4	00001	TRA 1,4		F2302280
A	07653	0	00000	0	00000	LIST40 HTR	E.S.
A	07654	0	00000	0	07656	LIST50 HTR	E1
A	07655	0	00000	0	00000	LIST60 HTR	E.S.
						FOUR WORD ENTRY BLOCK	
A	07656	0	00000	0	00000	E1 HTR	
A	07657	0	00000	0	00000	E2 HTR	
A	07660	0	00000	0	00000	E3 HTR	
A	07661	0	00000	0	00000	E4 HTR	
						FIVE KEY WORDS, C(DEC)=INDEX QUANTITIES, C(ADD)=NR. OF WORDS.	
07662	0	00005	0	00002	TSXCOM HTR	2,0,5	F2302370
07663	0	00004	0	00003	TRASTO HTR	3,0,4	F2302380
07664	0	00003	0	00002	NAMKEY HTR	2,0,3	F2302390
07665	0	00002	0	00002	CHATAG HTR	2,0,2	F2302400
07666	0	00001	0	00004	DRMTAG HTR	4,0,1	F2302410
						FIVE WORDS CONTAINING CURRENT TABLE ADDRESSES IN ADD. PART.	
A	07667	0	00000	0	00000	LADDS HTR	TSXCOM
A	07670	0	00000	0	00000	HTR	TRASTO
A	07671	0	00000	0	00000	HTR	NAMKEY
A	07672	0	00000	0	00000	HTR	CHATAG
A	07673	0	00000	0	00000	HTR	DRMTAG
						FIVE WORDS, C(ADD)=ORIGIN,C(DEC)=LAST TABLE LOC. PLUS ONE	
07674	0	02660	0	01302	LADDIN HTR	706,0,1456	F2302430
07675	0	01300	0	00460	HTR	304,0,704	F2302440
07676	0	02662	0	01760	HTR	1008,0,1458	F2302450
07677	0	00456	0	00002	HTR	2,0,302	F2302460
07700	0	03650	0	02664	HTR	1460,0,1960	F2302470
						THIS ROUTINE, GIVEN A TAU TAG, OBTAINS THE	F2302480
						CORRESPONDING SUBSCRIPT COMBINATION FROM THE TAU	F2302490
						DRUM AND POSITIONS IT IN PROPER FORMAT IN STORAGE.	F2302500
07701	-0	63400	4	07762	SUBCOM SXD	SUB085,4	F2302510
07702	-0	53400	1	07770	LXD SUBORG,1		F2302520
07703	0	76200	0	00304	SUB010 RDS	TAUDRM	F2302530
						SAVE LINKAGE INDX.	F2302540
						INITIALIZE ERROR COUTNER.	F2302550
						SELECT TAU DRUM.	F2302560
							F2302570
							F2302580
							F2302590
							F2302600

07704	-0	53400	4	07772	LXD	SUBORG+2,4	INITIALIZE	F2302610
07705	-0	75400	0	00000	PXD	0,0	SUBSCRIPT COMBINATION	F2302620
07706	0	60100	4	06645	STO	C1+8,4	SPACE	F2302630
07707	2	00001	4	07706	TIX	SUB020,4,1	TO ZERO.	F2302640
07710	0	50000	0	06626	CLA	TAG	COMPUTE	F2302650
07711	0	76500	0	00011	LRS	9	DRUM	F2302660
07712	0	73400	6	00000	PAX	0,6	ADDRESS.	F2302670
07713	-0	75400	0	00000	PXD	0,0	TAU ONE ADD. IS ORG+3TAU.	F2302680
07714	0	76300	0	00011	LLS	9	TAU TWO ADD. IS ORG+5TAU.	F2302690
07715	0	60100	0	07773	STO	SUBES1	TAU THREE ADD. IS ORG+7TAU.	F2302700
07716	0	76700	0	00001	ALS	1	STORE	F2302710
07717	0	60100	0	07774	STO	SUBES2	ADDRESS	F2302720
07720	0	50000	4	07773	CLA	SUBORG+3,4	IN SUBES1	F2302730
07721	0	40000	0	07773	ADD	SUBES1	FOR LDA	F2302740
07722	0	40000	0	07774	ADD	SUBES2	INSTRUCTION.	F2302750
07723	2	00001	4	07722	TIX	SUB030,4,1		F2302760
07724	0	62100	0	07773	STA	SUBES1		F2302770
07725	0	46000	0	07773	LDA	SUBES1		F2302780
07726	0	70000	0	06635	CPY	C1	COPY SUB. COMB.	F2302790
07727	-3	00002	2	07731	TXL	SUB040,2,2	TAU ONE, TWO, THREE	F2302800
07730	0	70000	0	06641	CPY	C3		F2302810
07731	0	70000	0	06636	CPY	S1	TAU 3	F2302820
07732	-3	00001	2	07737	TXL	SUB060,2,1	TAU 1,2,3	F2302830
07733	0	70000	0	06640	CPY	S2	TAU2,3	F2302840
07734	-3	00002	2	07736	TXL	SUB050,2,2		F2302850
07735	0	70000	0	06642	CPY	S3	TAU 3	F2302860
07736	0	70000	0	06643	CPY	D1	TAU 2,3	F2302870
07737	0	70000	0	07773	CPY	SUBES1	TAU 1,2,3	F2302880
07740	-0	53400	4	07770	LXD	SUBORG,4	COMPUT CHECK SUM	F2302890
07741	-0	50000	0	06635	CAL	C1	AND COMPARE WITH	F2302900
07742	0	36100	4	06644	ACL	C1+7,4	ENTRY CHECK CUM.	F2302910
07743	2	00001	4	07742	TIX	SUB070,4,1	THREE ATTEMPTS ARE MADE	F2302920
07744	0	60200	0	07774	SLW	SUBES2	TO READ SC CORRECTLY.	F2302930
07745	0	50000	0	07774	CLA	SUBES2	IF ERROR STILL PRESENT,	F2302940
07746	0	40200	0	07773	SUB	SUBES1	COMPLETE ROUTINE, MAKE ERROR RET.	F2302950
07747	0	10000	0	07752	TZE	SUB075	CHECK SUMS AGREE, TRA.	F2302960
07750	2	00001	1	07703	TIX	SUB010,1,1	CHECK SUMS DISAGREE,	F2302972
07751	0	07400	4	00004	TSX	DIAG,4	IN READING TAU FROM DRUM, ERROR. GO TO DIAGNOSTIC.	F2302985
07752	-0	53400	4	07771	LXD	SUBORG+1,4	REARRANGE C1, C2, D1, D2,	F2302990
07753	0	50000	4	06644	CLA	C1+7,4	TO COMPLY WITH CORE	F2303000
07754	0	73400	2	00000	PAX	0,2	STORAGE FORMAT.	F2303010
07755	-0	32000	0	06704	ANA	DECMASK		F2303020
07756	0	60100	4	06644	STO	C1+7,4		F2303030
07757	-0	75400	2	00000	PXD	0,2		F2303040
07760	-2	00006	4	07763	TXN	SUB090,4,6		F2303050
07761	0	60100	0	06637	STO	C2		F2303060
07762	-3	00000	0	07753	TXL	SUB080,0		F2303070
07763	0	60100	0	06644	STO	D2		F2303080
07764	-0	53400	4	07762	LXD	SUB085,4	RESTORE LINKAGE INDEX,	F2303090
07765	0	76100	0	00000	NOP			F2303102
07766	0	02000	4	00001	TRA	1,4		F2303110
07767	0	76100	0	00000	NOP			F2303122
07770	+000006001356			SUBORG	OCT	000006001356		F2303130
07771	+000007000454			SUBORG	OCT	7000454	DEC. IS 7, ADD. IS ORG. TAU 2	F2303140

	07772	+000010000000		OCT 10000000	DEC. IS 8, ADD. IS ORG. TAU 1	F2303150
A	07773	0 00000 0 00000	SUBES1	HTR	E.S.	F2303160
A	07774	0 00000 0 00000	SUBES2	HTR	E.S.	F2303170
		06721		ORG 3537		F2303180
				MASTER RECORD CARD = FN039		F2303185
	06721	-0 53400 1 00733	BL3A	LXD FORTAG-1,1	IF FORTAG	F2303190
	06722	3 02733 1 07616		TXH NORMRT,1,1499	IS EMPTY, NORM RET MONITOR. GO SPACE TP 1.	F2303205
	06723	-0 76000 0 00144		MSE LIGHT	IF FORVAL IS EMPTY,	F2303210
	06724	0 02000 0 06726		TRA INIT		F2303220
	06725	0 02000 0 07616		TRA NORMRT	NORM RET MONITOR. GO TO SPACE TAPE 1	F2303235
	06726	-0 53400 1 03670	INIT	LXD FORVAL-1,1	INITIALIZE	F2303240
	06727	-0 63400 1 07034		SXD TAB60,1	.	F2303250
	06730	-0 53400 1 00733		LXD FORTAG-1,1	.	F2303260
	06731	-0 63400 1 07015		SXD VAL80,1	.	F2303270
	06732	-0 63400 1 07020		SXD VAL95,1	.	F2303280
	06733	-0 53400 1 07570		LXD DOZ,1	.	F2303290
	06734	-0 63400 1 07101		SXD IND20,1	.	F2303300
	06735	-0 53400 1 06674	VALTAG	LXD L(1500,1	THIS PROGRAM	F2303310
	06736	0 50000 1 03670	VAL10	CLA FORTZ,1	MAKES A	F2303320
	06737	-0 12000 0 07017		TMI VAL90	PASS OVER	F2303330
	06740	-0 32000 0 06677		ANA BITONE	FORTAG, AND	F2303340
	06741	-0 10000 0 07017		TNZ VAL90	FOR EACH NON-NEGATIVE (NOT TRTREATED IN BL 2)	F2303350
	06742	0 50000 1 03670		CLA FORTZ,1	TAG WITH BITONE EQUAL	F2303360
	06743	-0 32000 0 06703		ANA ADDMSK	TO ZERO, (NOT YET TREATED HERE)	F2303370
	06744	0 60100 0 06626		STO TAG	OBTAINS THE CORRESPONDING SUBSCRIPT	F2303380
	06745	-0 63400 1 07000		SXD SAVEA,1	COMBINATION FROM THE	F2303390
	06746	0 07400 4 07701		TSX SUBCOM,4	TAU TABLE DRUM.	F2303400
	06747	-0 53400 4 06670		LXD L(3),4		F2303410
	06750	-0 75400 0 00000		PXD 0,0		F2303420
	06751	0 60100 4 06635	VAL20	STO RSYM1+3,4	INITIALIZE WITH ZEROES.	F2303430
	06752	2 00001 4 06751		TIIX VAL20,4,1		F2303440
	06753	-0 53400 1 06671		LXD L(6),1	THIS ROUTINE STORES	F2303450
	06754	-0 53400 2 06670		LXD L(3),2	THE SYMBOLS AS FOLLOWS	F2303460
	06755	0 50000 1 06644	VAL30	CLA S1+6,1	LEFTMOST IN RSYM1,	F2303470
	06756	0 10000 0 06761		TZE VAL40	NEXT SYMBOL IN RSYM2,	F2303480
	06757	0 60100 2 06635		STO RSYM1+3,2	RIGHTMOST IN RSYM3.	F2303490
	06760	1 77777 2 06761		TXI VAL40,2,-1	IF THERE ARE NOT THREE	F2303500
	06761	2 00002 1 06755	VAL40	TIIX VAL30,1,2	SYMBOLS IN THE SC, THEN	F2303510
	06762	-0 75400 2 00000		PXD 0,2	THE RSYM LOCATIONS ARE	F2303520
	06763	-0 76000 0 00003		SSM	SET TO ZERO.	F2303530
	06764	0 40000 0 06670		ADD L(3)	DELTA IS THE SYMBOL COUNT.	F2303540
	06765	0 10000 0 07001		TZE VAL60	SUBSCRIPT IS CONSTANT, NO SYMBOLS.	F2303550
	06766	0 60100 0 06631		STO DELTA		F2303560
	06767	-0 53400 4 06665		LXD L(0),4	LOCATION TAGIND IS SET	F2303570
	06770	0 40200 0 06666		SUB L(1)	TO ZERO, UNLESS THE SC	F2303580
	06771	-0 10000 0 06777		TNZ VAL50	HAS THE FOLLOWING	F2303590
	06772	0 50000 0 06636		CLA S1	CHARACTERISTICS	F2303600
	06773	0 10000 0 06777		TZE VAL50	ONE SYMBOL	F2303610
	06774	-0 53400 1 06635		LXD C1,1	IN LEFTMOST POSITION	F2303620
	06775	3 00001 1 06777		TXH VAL50,1,1	WITH COEFFICIENT EQUAL	F2303630
	06776	-0 53400 4 06666		LXD L(1),4	TO ONE	F2303640
	06777	-0 63400 4 06630	VAL50	SXD TAGIND,4		F2303650
D	07000	-3 00000 0 07022	SAVEA	TXL TABSER,0	GO TO PROCESSING ROUTINE. (DEC HAS FORTAG IX)	F2303660
	07001	-0 53400 1 07000	VAL60	LXD SAVEA,1	RETURN FROM PROCESSING	F2303670

07002	0	50000	1	03670	CLA FORTZ,1	ROUTINE. FOR THIS TAG,	F2303680
07003	-0	12000	0	07014	TMI VAL70	AND ALL TAGS EQUAL TO	F2303690
07004	-0	32000	0	06677	ANA BITONE	THIS TAG, SET FORTAG	F2303700
07005	-0	10000	0	07014	TNZ VAL70	ENTRY BIT ONE EQUAL	F2303710
07006	0	50000	1	03670	CLA FORTZ,1	TO ONE.	F2303720
07007	-0	32000	0	06703	ANA ADDMSK		F2303730
07010	0	40200	0	06626	SUB TAG		F2303740
07011	-0	10000	0	07014	TNZ VAL70		F2303750
07012	0	50000	0	06677	CLA BITONE		F2303760
07013	-0	60200	1	03670	ORS FORTZ,1		F2303770
07014	1	77777	1	07015	TXI VAL80,1,-1		F2303780
D 07015	3	00000	1	07002	TXH VAL60+1,1	IF FORTAG DONE, (DEC HAS FORTAGIX)	F2303790
07016	-0	53400	1	07000	LXD SAVEA,1	GO BACK	F2303800
D 07017	1	77777	1	07020	TXI VAL95,1,-1	FOR NEXT TAG	F2303810
07020	3	00000	1	06736	TXH VAL10,1	IF ANY (DEC HAS FORTAGIX)	F2303820
07021	0	02000	0	07616	TRA NORMRT	NORM RET MONITOR. GO TO SPACE TAPE 1	F2303835
07022	-0	53400	1	06674	TABSER	SEARCH	F2303840
07023	-0	63400	2	07032	SXD L(1500,1	(6 - 2X NO SUB SYMBOLS - VAL40)	F2303850
07024	-0	53400	2	06670	LXD L(3),2	FORVAL	F2303860
07025	0	50000	1	06626	CLA 4VALZ+1,1	FOR AN	F2303870
07026	0	34000	2	06635	TAB20	OCCURRANCE	F2303880
07027	0	02000	0	07031	TRA TAB30	OF ANY SYMBOL	F2303890
07030	0	02000	0	07036	TRA FOUND	IN THIS SC.	F2303900
D 07031	1	77777	2	07032	TAB30	( DEC LOADED FROM TABSER + 1)	F2303910
07032	3	00000	2	07026	TXH TAB20,2		F2303920
D 07033	1	77775	1	07034	TXI TAB60,1,-3	(DEC HAS FORVALIX)	F2303930
07034	3	00000	1	07024	TXH TAB10,1		F2303940
07035	0	02000	0	07001	TRA VAL60	IF SYMBOL FOUND,	F2303950
07036	-0	63400	1	07053	FOUND	MAKE NORMAL OR SPECIAL	F2303960
07037	-0	53400	4	06630	LXD TAGIND,4	ENTRY IN TSXCOM, DEPENDING	F2303970
07040	0	50000	1	06625	CLA 4VALZ,1	ON TAGIND. (UNLESS SEE SUBRT INDO)	F2303980
07041	3	00000	4	07054	TXH FND20,4,0		F2303990
07042	0	60100	0	07112	STO FORNR		F2304000
07043	0	07400	4	07064	TSX INDO,4	INDO RETURN IF FRVL ALPH IN RANGE MTCHNG DOTAG	F2304010
07044	0	02000	0	07062	TRA FND40	RETURN FROM INDO WHEN NOT SO.	F2304020
07045	-0	53400	1	07053	LXD FND10,1		F2304030
07046	0	50000	1	06625	CLA 4VALZ,1		F2304040
07047	0	60100	0	07656	STO E1	SPECIAL ENTRY IF TAGIND	F2304050
07050	0	50000	0	06626	CLA TAG	NOT ZERO	F2304060
07051	0	76700	0	00022	ALS 18		F2304070
07052	-0	50100	0	06626	ORA TAG		F2304080
D 07053	-3	00000	0	07057	FND10	(DEC HAS FORTAG IX)	F2304090
07054	-0	50100	0	06626	FND20	SET UP E BLOCK WHEN TAGIND EQUAL 1	F2304100
07055	0	60100	0	07656	STO E1	TAG SYMBOL	F2304110
07056	0	50000	0	06632	CLA RSYM1	TSXCOM KEY	F2304120
07057	0	60100	0	07657	FND30		F2304130
07060	0	50000	0	07662	CLA TSXCOM		F2304140
07061	0	07400	4	07620	TSX LIST,4		F2304150
07062	-0	53400	1	07053	FND40	CONTINUE SEARCH	F2304160
07063	0	02000	0	07033	TRA TAB50	SUBRT INDO.... THIS ROUTINE DETERMINES WHETHER THE FORVAL	F2304170
						WHICH HAS BEEN FOUND TO MATCH A SUBSCRIPT FALLS WITHIN RANGE	F2304180
						OF A DO WHICH IN TURN MATCHES THE FORAVAL. IF SO A RETURN IS	F2304190
						MADE AND TSXCOM ENTRY FOR THIS FORVAL ALPHA IS OMMITTED.	F2304200
							F2304210

	07064	-0	53400	1	07113	IND0	LXD	IND60,1		F2304220
	07065	0	02000	0	07101		TRA	IND20		F2304230
	07066	0	50000	1	07570	IND10	CLA	DOZ,1	OBTAIN FIRST WORD DOTAG.	F2304240
	07067	0	73400	2	00000		PAX	0,2	DOTAGS BETA.	F2304250
	07070	-0	32000	0	06704		ANA	DECMASK	DOTAGS ALPHA	F2304260
	07071	0	34000	0	07112		CAS	FORNR	AGAINST FORVAL ALPHA.	F2304270
	07072	0	02000	4	00002		TRA	2,4	OUTSIDE RANGE . RETURN.	F2304280
	07073	0	07400	4	00004		TSX	DIAG,4	FORVAL ALPHA EQ DO ALPHA. ERROR. GO TO DIAGNOSTIC.	F2304295
	07074	-0	75400	2	00000		PXD	0,2		F2304300
	07075	0	34000	0	07112		CAS	FORNR	DOTAGS BETA AGAINST FORVAL ALPHA.	F2304310
	07076	0	02000	0	07103		TRA	IND30	FORVAL WITHIN RANGE	F2304320
	07077	0	02000	0	07103		TRA	IND30	OF DOTAG.	F2304330
	07100	1	77776	1	07101		TXI	IND20,1,-2		F2304340
D	07101	3	00000	1	07066	IND20	TXH	IND10,1		F2304350
	07102	0	02000	4	00002		TRA	2,4	DOTAG EXHAUSTED, RETURN.	F2304360
	07103	-0	53400	2	06670	IND30	LXD	L(3),2		F2304370
	07104	0	50000	1	07571		CLA	DOZ+1,1	FN EDIT CORR CD NR.	F2304384
	07105	0	34000	2	06635	IND40	CAS	RSYM1+3,2	DOES DOTAG SYMBOL EQUAL	F2304390
	07106	0	02000	0	07110		TRA	IND50	FORVAL SYMBOL (WHICH HAS BEEN FOUND	F2304400
	07107	0	02000	4	00001		TRA	1,4	TO EQUAL SUBSCRIPT). IF SO, RETURN.	F2304410
	07110	2	00001	2	07105	IND50	TIX	IND40,2,1		F2304420
	07111	1	77776	1	07101		TXI	IND20,1,-2		F2304430
A	07112	0	00000	0	00000	FORNR	HTR		STORAGE FOR FIRST WD FORVAL (ALPHA)	F2304440
	07113	0	00454	0	00000	IND60		0,0,300		F2304450
					07114	DO	BSS	1		F2304460
					07115		BSS	299		F2304470
					07570	DOZ	BSS	1		F2304480
					06721		ORG	3537		F2304490
									MASTER RECORD CARD = FN041	F2304495
	06721	-0	53400	1	00733	BL3B	LXD	FORTAG-1,1	FORTAG EMPTY	F2304500
	06722	3	02733	1	07616		TXH	NORMRT,1,1499	NORM RET MONITOR. GO TO SPACE TAPE 1.	F2304515
	06723	-0	76000	0	00143		MSE	99	TEST FOR EMPTY DOTAG	F2304520
	06724	0	02000	0	06727		TRA	RDOTAG	OFF	F2304530
	06725	0	76000	0	00143		PSE	99	ON, EMPTY	F2304540
	06726	0	02000	0	07616		TRA	NORMRT	NORM RET MONITOR. GO TO SPACE TAPE 1	F2304555
	06727	-0	53400	6	06671	RDOTAG	LXD	L(6),6	INITIALIZE ERROR COUNTERS.	F2304562
	06730	0	76400	0	00222	RDPOS	BST	TAPE2	POSITION TAPE 2 FOR DOTAG	F2304570
	06731	0	76400	0	00222		BST	TAPE2		F2304580
	06732	0	76200	0	00222		RDS	TAPE2		F2304590
	06733	0	70000	0	06770		CPY	RDES1		F2304600
	06734	0	70000	0	06771		CPY	RDES2		F2304610
A	06735	0	70000	0	00000		CPY			F2304620
	06736	0	07400	4	00004		TSX	DIAG,4	ERROR. GO TO DIAGNOSTIC.	F2304635
	06737	0	07400	4	00004		TSX	DIAG,4	ERROR. GO TO DIAGNOSTIC.	F2304645
	06740	0	50000	0	06770	RDREC	CLA	RDES1		F2304650
	06741	0	40200	0	06771		SUB	RDES2		F2304660
	06742	0	10000	0	06745		TZE	RDBACK		F2304670
	06743	2	00001	4	06731		TIX	RDPOS+1,4,1	ERROR - REREAD	F2304680
	06744	0	07400	4	00004		TSX	DIAG,4	ERROR. GO TO DIAGNOSTIC.	F2304695
	06745	-0	53400	1	06770	RDBACK	LXD	RDES1,1	NO RECORDS	F2304700
	06746	1	00002	1	06747		TXI	RDBST,1,2		F2304710
	06747	0	76400	0	00222	RDBST	BST	TAPE2	BACKSPACE DESIGNATED NO RECORDS	F2304720
	06750	2	00001	1	06747		TIX	RDBST,1,1		F2304730
	06751	-0	53400	1	06673		LXD	L(1350,1	MAX SIZE DOTAG	F2304740

06752	0	76200	0	00222	RDRDS	RDS	TAPE2		F2304750
06753	0	70000	1	06377	RDCPY	CPY	DOTAGZ,1	READ IN DOTAG	F2304760
06754	1	77777	1	06753		TXI	RDCPY,1,-1		F2304770
06755	0	02000	0	06757		TRA	RDEOF		F2304780
06756	0	02000	0	06752		TRA	RDRDS		F2304790
06757	-0	63400	1	03670	RDEOF	SXD	DOTAG-1,1	DOTAG INDEX(1350-NO DOTAG ENTRIES)	F2304800
06760	0	76200	0	00222		RDS	TAPE2	SPACE TAPE.	F2304810
06761	0	76200	0	00222		RDS	TAPE2		F2304820
06762	0	76600	0	00333		WRS	219		F2304830
06763	-0	76000	0	00012		RTT			F2304840
06764	0	02000	0	06766		TRA	RDER	ON	F2304850
06765	0	02000	0	06772		TRA	DOPASS		F2304860
06766	2	00001	2	06730	RDER	TIX	RDPOS,2,1	TRY TWICE MORE.	F2304870
06767	0	07400	4	00004		TSX	DIAG,4	TAPE 2, READING DOTAG.	F2304885
06770	0	00000	0	00000	RDES1	HTR		RECORD COUNT	F2304890
06771	0	00000	0	00000	RDES2	HTR		RECORD COUNT	F2304900
06772	-0	53400	1	03670	DOPASS	LXD	DOTAG-1,1	DOTAG INDEX.	F2304910
06773	-0	63400	1	07110		SXD	SYM40,1	INITIALIZE.	F2304920
06774	-0	63400	1	07160		SXD	SYM130,1	.	F2304930
06775	-0	63400	1	07222		SXD	SYM220,1	.	F2304940
06776	-0	63400	1	07523		SXD	TRAW20,1	.	F2304950
06777	-0	63400	1	07541		SXD	TRAW50,1	.	F2304960
07000	-0	63400	1	07420		SXD	SPC040,1	.	F2304970
07001	-0	63400	1	07455		SXD	SPC090,1	.	F2304980
07002	-0	53400	1	00030		LXD	NAME-1,1	.	F2304990
07003	-0	63400	1	07261		SXD	GETN20,1	.	F2305000
								THIS ROUTINEMAKES A PASS OVER FORTAG AND FOR EACH NON-	F2305010
								NEGATIVE TAG, OBTAINS THE CORRESPONDING SUBSCRIPT COMBINATION	F2305020
								FROM THE TAU DRUM. THE SYMBOLS ARE PUT INTO THE LOCATIONS	F2305030
								RSYM1, RSYM2, RSYM3, AND LOCATION TAGIND IS INITIALIZED.	F2305040
								CONTROL THEN GOES TO ROUTINE SYMONE. UPON RETURN, THIS ENTRY	F2305050
								IN FORTAG AND ALL OTHER NON- NEGATIVE ENTRIES CONTAINING	F2305060
								THIS TAG ARE SET NEGATIVE.	F2305070
07004	-0	53400	1	00733	TAGPAS	LXD	FORTAG-1,1		F2305080
07005	-0	63400	1	07601		SXD	TINF30,1		F2305090
07006	-0	63400	1	07073		SXD	TAGP80,1		F2305100
07007	-0	63400	1	07076		SXD	TAGP98,1		F2305110
07010	-0	53400	1	06674		LXD	L(1500,1		F2305120
07011	0	50000	1	03670	TAGP10	CLA	FORTZ,1		F2305130
07012	-0	12000	0	07075		TMI	TAGP94	IF NEG, GET NEXT FORTAG	F2305140
07013	-0	32000	0	06703		ANA	ADDMSK	TAG	F2305150
07014	0	60100	0	06626		STO	TAG		F2305160
07015	-0	63400	1	07077		SXD	TAGX,1	SAVE CURRENT FORTAG IX	F2305170
07016	0	07400	4	07701		TSX	SUBCOM,4	OBTAIN AND DISPERSE THE TAU TABLES.	F2305180
07017	-0	53400	4	06670		LXD	L(3),4		F2305190
07020	-0	75400	0	00000		PXD	0,0		F2305200
07021	0	60100	4	06635	TAGP20	STO	RSYM1+3,4	INITIALIZE RSYM LOCATIONS WITH ZERO.	F2305210
07022	2	00001	4	07021		TIX	TAGP20,4,1		F2305220
07023	-0	53400	1	06671		LXD	L(6),1		F2305230
07024	-0	53400	2	06670		LXD	L(3),2		F2305240
07025	-0	53400	4	06665		LXD	L(0),4		F2305250
07026	0	50000	1	06644	TAGP30	CLA	S1+6,1	GET SYMBOL	F2305260
07027	0	10000	0	07041		TZE	TAGP40	IF ZERO, GET NEXT SYMBOL	F2305270
07030	3	00002	2	07037		TXH	TAGP34,2,2	AT RSYM2 AND RSYM3 PASS,	F2305280



07031	0	34000	0	06632	CAS	RSYM1	CHECK FOR DUPLICATE SYMBOLS.	F2305290
07032	0	02000	0	07034	TRA	TAGP32		F2305300
07033	1	00001	4	07041	TXI	TAGP40,4,1	SYMBOL DUPLICATES RSYM1.	F2305310
07034	0	34000	0	06633	TAGP32	CAS	RSYM2	F2305320
07035	0	02000	0	07037	TRA	TAGP34		F2305330
07036	1	00001	4	07041	TXI	TAGP40,4,1	SYMBOL DUPLICATES RSYM2.	F2305340
07037	0	60100	2	06635	TAGP34	STO	RSYM1+3,2	F2305350
07040	1	77777	2	07041	TXI	TAGP40,2,-1	BUMP DELTA COUNTER.	F2305360
07041	2	00002	1	07026	TAGP40	TIX	TAGP30,1,2	F2305370
07042	-0	75400	2	00000	PXD	0,2	COMPUTE	F2305380
07043	-0	76000	0	00003	SSM		DELTA AS NO	F2305390
07044	0	40000	0	06670	ADD	L(3)	OF DISTINCT SYMBOLS.	F2305400
07045	0	10000	0	07062	TZE	TAGP50	CONSTANT SUBSCRIPT.	F2305410
07046	0	60100	0	06631	STO	DELTA		F2305420
07047	-0	53400	2	06665	LXD	L(0),2		F2305430
07050	3	00000	4	07060	TXH	TAGP45,4,0	IF DUPES, SET TAGIND TO ZERO	F2305440
07051	0	40200	0	06666	SUB	L(1)		F2305450
07052	-0	10000	0	07060	TNZ	TAGP45	IF DELTA OTHER THAN ONE, SET TAGIND TO ZERO	F2305460
07053	0	50000	0	06636	CLA	S1		F2305470
07054	0	10000	0	07060	TZE	TAGP45	IF SUBSCRIPT CONSTANT, SET TAGIND TO ZERO	F2305480
07055	-0	53400	1	06635	LXD	C1,1	IF COEFF OTHER THAN 1 SET TAGIND TO ZERO	F2305490
07056	3	00001	1	07060	TXH	TAGP45,1,1		F2305500
07057	-0	53400	2	06666	LXD	L(1),2	OTHERWISE SET TAGIND TO ONE.	F2305510
07060	-0	63400	2	06630	TAGP45	SXD	TAGIND,2	F2305520
07061	0	02000	0	07100	TRA	SYMONE	GO TO ANALYZE DONEST,	F2305530
07062	-0	53400	1	07077	TAGP50	LXD	TAGX,1	F2305540
07063	0	50000	1	03670	TAGP60	CLA	FORTZ,1	F2305550
07064	-0	12000	0	07072	TMI	TAGP70	FORTAGS	F2305560
07065	-0	32000	0	06703	ANA	ADDMSK	ARE	F2305570
07066	0	40200	0	06626	SUB	TAG	THE SAME AS THAT TAG	F2305580
07067	-0	10000	0	07072	TNZ	TAGP70	JUST TREATED,	F2305590
07070	-0	50000	0	06676	CAL	L(MZ)	SET THEM	F2305600
07071	-0	60200	1	03670	ORS	FORTZ,1	MINUS.	F2305610
07072	1	77777	1	07073	TAGP70	TXI	TAGP80,1,-1	F2305620
07073	3	00000	1	07063	TAGP80	TXH	TAGP60,1	F2305630
07074	-0	53400	1	07077	TAGP90	LXD	TAGX,1	F2305640
07075	1	77777	1	07076	TAGP94	TXI	TAGP98,1,-1	F2305650
07076	3	00000	1	07011	TAGP98	TXH	TAGP10,1	F2305660
07077	-3	00000	0	07616	TAGX	TXL	NORMRT,0	F2305675
							ROUTINE SYMONE FINDS DOFORMULAS DEFINING SOME SYMBOL IN THIS	F2305680
							SC. IT USES TRAWRD TO DETERMINE WHETHER OR NOT ROUTINE	F2305690
							PROCESS SHOULD BE USED.	F2305700
							IF MORE THAN ONE SYMBOL, IT THEN USES ROUTINE SYM2.	F2305710
07100	-0	53400	1	06673	SYMONE	LXD	L(1350,1	F2305720
07101	-0	53400	2	06670	SYM10	LXD	L(3),2	F2305730
07102	0	50000	1	06400	CLA	DOTAGZ+1,1	GET NEXT DOTAG SYMBOL.	F2305740
07103	0	34000	2	06635	SYM20	CAS	RSYM1+3,2	F2305750
07104	0	02000	0	07106	TRA	SYM30		F2305760
07105	0	02000	0	07112	TRA	SYM50	YES	F2305770
07106	2	00001	2	07103	SYM30	TIX	SYM20,2,1	F2305780
07107	1	77767	1	07110	TXI	SYM40,1,-9		F2305790
07110	3	00000	1	07101	SYM40	TXH	SYM10,1	F2305800
07111	0	02000	0	07062	TRA	TAGP50		F2305810
07112	0	50000	0	06632	SYM50	CLA	RSYM1	F2305820
							INTERCHANGE THE	

07113	0	56000	2	06635	LDQ RSYM1+3,2	MATCHING SUBSCRIPT	F2305830
07114	0	60100	2	06635	STO RSYM1+3,2	SYMBOL WITH	F2305840
07115	-0	60000	0	06632	STQ RSYM1	RSYM1.	F2305850
07116	0	50000	1	06404	CLA DOTAGZ+5,1		F2305860
07117	-0	32000	0	06704	ANA DECMSK	STORE LEVEL	F2305870
07120	0	60100	0	06647	STO LR1	OF	F2305880
07121	0	60100	0	06645	STO TL2	DOTAG	F2305890
07122	-0	63400	1	06646	SXD XR1,1	THIS DOTAG IS R1.	F2305900
07123	-0	53400	4	06631	LXD DELTA,4	IF DELTA IS	F2305910
07124	-0	53400	2	06666	LXD L(1),2	ONE, THEN	F2305920
07125	-3	00001	4	07127	TXL SYM60,4,1	NO TRAWORD SKIP.	F2305930
07126	-0	53400	2	06667	LXD L(2),2	OTHERWISE, TRAWORD SKIP.	F2305940
07127	0	07400	4	07513	TSX TRAWRD,4		F2305950
07130	-0	63400	1	06650	SXD NEXTR1,1	SAVE INDEX LAST DOTAG HANDLED.	F2305960
07131	0	10000	0	07135	TZE SYM70	ARE THERE TRANSFERS OUT (TRABITS).	F2305970
07132	-0	53400	1	06646	LXD XR1,1	YES. LOAD I.R. FOR MATCHING DOTAG.	F2305980
07133	-0	53400	2	06666	LXD L(1),2	A ONE TELLS PROCESS THAT	F2305990
07134	0	07400	4	07236	TSX PROCES,4	CALLER WAS SYMONE. (B).	F2306000
07135	-0	53400	4	06631	LXD DELTA,4	NO TRANSFERS OUT (TRABITS)	F2306010
07136	-3	00001	4	07142	TXL SYM80,4,1	IF DELTA IS GREATER THAN ONE, THEN	F2306020
07137	-0	53400	1	06646	LXD XR1,1	LOAD INDEX REG FOR MATCHING DOTAG,	F2306030
07140	-0	53400	2	06647	LXD LR1,2	AND LEVEL AND	F2306040
07141	0	02000	0	07144	TRA SYM2	GO TO SECOND LEVEL SEARCH.	F2306050
07142	-0	53400	1	06650	LXD NEXTR1,1	DELTA IS ONE,	F2306060
07143	0	02000	0	07110	TRA SYM40	CONTINUE FIRST LEVEL SEARCH.	F2306070
					ROUTINE SYMTWO MAKES A SECOND LEVEL SEARCH AMONG THOSE DOS		F2306080
					NESTED WITHIN THE DO MATCHING RSYM1. USES PROCESS ROUTINE		F2306090
					IF NECESSARY, AND ROUTINE SYM3 IF NECESSARY.		F2306100
					INITIALIZE LEVEL TEST		F2306110
07144	-0	63400	2	07150	SYM2 SXD SYM100,2		F2306120
07145	0	02000	0	07157	TRA SYM120		F2306130
07146	0	50000	1	06404	SYM90 CLA DOTAGZ+5,1	GET LEVEL OF	F2306140
07147	-0	73400	2	00000	PDX 0,2	NEW DOTAG AND	F2306150
07150	-3	00000	2	07110	SYM100 TXL SYM40,2	TEST AGAINST LEVEL OF R1 AND	F2306160
07151	0	50000	1	06400	CLA DOTAGZ+1,1	IF WITHIN RANGE OF R1,	F2306170
07152	0	34000	0	06633	CAS RSYM2	TEST MATCH DOTAG SYMBOL AGAINST RSYM2.	F2306180
07153	0	02000	0	07155	TRA SYM110		F2306190
07154	0	02000	0	07166	TRA SYM150	MATCHES . GO TO TREAT R2.	F2306200
07155	0	40200	0	06634	SYM110 SUB RSYM3	DOESNT MATCH RSYM2, TRY RSYM3.	F2306210
07156	0	10000	0	07162	TZE SYM140		F2306220
07157	1	77767	1	07160	SYM120 TXI SYM130,1,-9	GET NEXT DOTAG	F2306230
07160	3	00000	1	07146	SYM130 TXH SYM90,1	(DEC CONTAINS DOTAG IX)	F2306240
07161	0	02000	0	07110	TRA SYM40	IF END OF DOTAG, EXIT.	F2306250
07162	0	50000	0	06633	SYM140 CLA RSYM2	DOTAG SYMBOL MATCHES RSYM3 -	F2306260
07163	0	56000	0	06634	LDQ RSYM3	INTERCHANGE	F2306270
07164	0	60100	0	06634	STO RSYM3	RSYM2 AND	F2306280
07165	-0	60000	0	06633	STQ RSYM2	RSYM3.	F2306290
07166	-0	63400	1	06651	SYM150 SXD XR2,1	THIS DOTAG IS R2	F2306300
07167	-0	63400	2	06652	SXD LR2,2	SAVE ITS LEVEL .	F2306310
07170	-0	53400	2	06666	LXD L(1),2	IF DELTA IS	F2306320
07171	-0	53400	4	06631	LXD DELTA,4	TWO OR ONE, THEN	F2306330
07172	-3	00002	4	07174	TXL SYM160,4,2	NO TRAWORD SKIP.	F2306340
07173	-0	53400	2	06667	LXD L(2),2	OTHERWISE TRAWORD SKIP.	F2306350
07174	0	07400	4	07513	SYM160 TSX TRAWRD,4		F2306360
07175	-0	63400	1	06653	SXD NEXTR2,1	SAVE INDEX LAST DOTAG HANDLED.	

07176	0	10000	0	07202	TZE	SYM170	ARE THERE TRANSFERS OUT (TRABITS).	F2306370
07177	-0	53400	1	06651	LXD	XR2,1	YES. LOAD IX REG FOR MATCHING DOTAG.	F2306380
07200	-0	53400	2	06667	LXD	L(2),2	A TWO TELLS PROCESS THAT	F2306390
07201	0	07400	4	07236	TSX	PROCES,4	CALLER WAS SYM2. (2).	F2306400
07202	-0	53400	4	06631	LXD	DELTA,4	NO TRANSFERS OUT (TRABITS).	F2306410
07203	-3	00002	4	07207	TXL	SYM180,4,2	IF DELTA IS 3, THEN	F2306420
07204	-0	53400	1	06651	LXD	XR2,1	LOAD INDEX REG FOR MATCHING DOTAG.	F2306430
07205	-0	53400	2	06652	LXD	LR2,2	AND LEVEL AND	F2306440
07206	0	02000	0	07211	TRA	SYM3	GO TO THRID LEVEL SEARCH.	F2306450
07207	-0	53400	1	06653	LXD	NEXTR2,1	DELTA IS LESS THAN THREE,	F2306460
07210	0	02000	0	07160	TRA	SYM130	CONTINUE SECOND LEVEL SEARCH.	F2306470
							ROUTINE SYM3 MAKES A THIRD LEVEL SEARCH OF DOTAG AMONG THOSE	F2306480
							DOS NESTED WITHIN THE DO MATCHING RSYM2, USES PROCESS IF	F2306490
							NECESSARY, AND THEN RETURNS TO SYM2.	F2306500
07211	-0	63400	2	07215	SXD	SYM200,2	INITIALIZE WITH LEVEL OF R2.	F2306510
07212	0	02000	0	07221	TRA	SYM210		F2306520
07213	0	50000	1	06404	SYM190	CLA DOTAGZ+5,1	OBTAIN LEVEL	F2306530
07214	-0	73400	2	00000	PDX	0,2	OF CURRENT DOTAG AND IF IT IS	F2306540
07215	-3	00000	2	07160	SYM200	TXL SYM130,2	OUTSIDE RANGE OF R2, EXIT. (DEC HAS LEVEL R2)	F2306550
07216	0	50000	1	06400	CLA	DOTAGZ+1,1	OTHERWISE CHECK FOR IDENTIRY	F2306560
07217	0	40200	0	06634	SUB	RSYM3	WITH THIRD FORTAG SYMBOL.	F2306570
07220	0	10000	0	07224	TZE	SYM230	IF IDENTITY, GO TO ANALYZE . OTHERWISE,	F2306580
07221	1	77767	1	07222	SYM210	TXI SYM220,1,-9	GET NEXT DOTAG.	F2306590
07222	3	00000	1	07213	SYM220	TXH SYM190,1	IF END OF DOTAG, (DEC HAS DOTAG IX)	F2306600
07223	0	02000	0	07160	TRA	SYM130	EXIT FROM THIRD LEVEL SEARCH	F2306610
07224	-0	63400	1	06654	SYM230	SXD XR3,1	SAVE IX OF MATCHING DO	F2306620
07225	-0	53400	2	06666	LXD	L(1),2	NO TRAWORD SKIP.	F2306630
07226	0	07400	4	07513	TSX	TRAWRD,4	GO TO HUNT TRANSFERS-OUT.	F2306640
07227	0	10000	0	07222	TZE	SYM220	IF NO TRNSFRS OUT (TRABITS) RETURN TO SRCH	F2306650
07230	-0	63400	1	06655	SXD	NEXTR3,1	TRNSFRS OUT. SAVE IX LAST DO HANDLED IN TRAWORD	F2306660
07231	-0	53400	1	06654	LXD	XR3,1		F2306670
07232	-0	53400	2	06670	LXD	L(3),2	THREE TELLS PROCESS THAT CALLER WAS SYM3.	F2306680
07233	0	07400	4	07236	TSX	PROCES,4		F2306690
07234	-0	53400	1	06655	LXD	NEXTR3,1	GET IX NEXT DOTAG AND	F2306700
07235	0	02000	0	07222	TRA	SYM220	CONTINUE THIRD LEVEL SEARCH.	F2306710
							ROUTINE PROCESS DETERMINES WHETHER OR NOT THERE EXISTS A	F2306720
							TAG IDENTICAL TO THE CURRENT RELCON TAG AND WHETHER ITS	F2306730
							TAG NAME HAS BEEN CHANGED. THE SEARCH FOR THIS IDENTICAL TAG	F2306740
							IS MADE THRU APPROPRIATE RANGES OF THAT DO WHOSE SYMBOL HAS	F2306750
							BEEN FOUND TO MATCH ONE OF THE RELCON SYMBOLS, TRASTO ENTRIES	F2306760
							ARE ENTERED DEPENDING UPON WHICH OF THOSE CONDITIONS HOLDS.	F2306770
07236	-0	63400	1	07262	PROCES	SXD DOX,1	SAVE DOTAG IX	F2306780
07237	-0	63400	4	07265	SXD	SYMLNK,4	AND CALLER	F2306790
07240	-0	63400	2	07243	SXD	PR10,2	AND INITIALIZE WITH B.	F2306800
07241	-0	53400	2	06631	LXD	DELTA,2		F2306810
07242	-0	53400	4	06665	LXD	L(0),4		F2306820
07243	3	00000	2	07245	PR10	TXH PR20,2	DOES DELTA EXCEED B. (DEC HAS B)	F2306830
07244	-0	53400	4	06666	LXD	L(1),4	IF NOT, THEN NO SKIP. OTHERWISE,	F2306840
07245	-0	63400	4	06656	PR20	SXD SKIP,4	SKIP IF C(SKIP)=0.	F2306850
07246	-0	53400	4	06630	LXD	TAGIND,4	TRA IF SPECIAL CASE, I.E., MOST SIMPLE.	F2306860
07247	3	00000	4	07317	TXH	PRSPEC,4,0	(TAGIND NOT ZERO)	F2306870
07250	0	50000	1	06377	CLA	DOTAGZ,1	SEARCH TABLE NAME	F2306880
07251	-0	32000	0	06704	ANA	DECMSK	GET RSYM1 DOTAG ALPHA IN DEC	F2306890
07252	0	40000	0	06626	ADD	TAG	AND FORTAG IN ADDRESS.	F2306900

	07253	-0	53400	1	06711	GETNAM	LXD	NAMAX,1	LOAD MAX NO NAME TABLE WORDS	F2306910
	07254	0	02000	0	07261		TRA	GETN20		F2306920
	07255	0	34000	1	00733	GETN05	CAS	NAMZ,1	DOES THE DOTAG ALPHA AND FORTAG INDEX OF THE	F2306930
	07256	0	02000	0	07260		TRA	GETN10	FIRST WORD OF NAME TABLE MATCH THOSE ABOVE.	F2306940
	07257	0	02000	0	07263		TRA	GETN30	YES.	F2306950
	07260	1	77775	1	07261	GETN10	TXI	GETN20,1,-3	NO, GET NEXT NAME TABLE.	F2306960
D	07261	3	00000	1	07255	GETN20	TXH	GETN05,1	IS NAME TABLE EXHAUSTED (DEC HAS NAME IX)	F2306970
D	07262	-3	00000	0	07266	DOX	TXL	PR25,0	YES, NOT NOT FOUND. ( DEC HAS IX MATCHING DOTAG	F2306980
	07263	0	50000	1	00734	GETN30	CLA	NAMZ+1,1	FOUND. OBTAIN NEW TAG NAME	F2306990
	07264	0	60100	0	06627		STO	TS	AND SAVE IT.	F2307000
D	07265	-3	00000	0	07313	SYMLNK	TXL	PR80,0		F2307010
	07266	-0	53400	4	06656	PR25	LXD	SKIP,4	NOT FOUND IN NAME TABLE,	F2307020
	07267	-0	53400	1	07262		LXD	DOX,1	SEARCH FORTAG	F2307030
	07270	3	00000	4	07275		TXH	PR30,4,0	IN PROPER RANGE.	F2307040
	07271	-0	53400	2	06666		LXD	L(1),2	INDICATE TINFOR SEARCH REQUIRED	F2307050
	07272	0	07400	4	07401		TSX	SPC000,4		F2307060
	07273	0	02000	0	07277		TRA	PR40	NOT FOUND	F2307070
	07274	0	02000	0	07315		TRA	PR90	T FOUND	F2307080
	07275	0	07400	4	07564	PR30	TSX	TINFOR,4		F2307090
	07276	0	02000	0	07315		TRA	PR90	FOUND, GO TO EXIT.	F2307100
	07277	-0	53400	2	06665	PR40	LXD	L(0),2	T NOT FOUND, MAKE TYPE 6	F2307110
	07300	0	07400	4	07336		TSX	TRAENT,4	TRASTO ENTRY	F2307120
								MAKE ENTRY IN	TABLE IRV	F2307130
	07301	-0	53400	1	06664	PR60	LXD	IRVXX,1	GET IX FOR ENTRY IN TABLE IRV.	F2307140
	07302	3	00000	1	07304		TXH	PR70,1,0		F2307150
	07303	0	07400	4	00004		TSX	DIAG,4	TABLE IRV FULL. ERROR. GO TO DIAGNOSTIC.	F2307165
	07304	0	50000	0	06626	PR70	CLA	TAG	PLACE TAG IN	F2307170
	07305	0	76700	0	00022		ALS	18	DECREMENT AND	F2307180
	07306	0	40000	0	06626		ADD	TAG	ADDRESS AND	F2307190
	07307	0	60100	1	06625		STO	IRVZ,1	STORE ENTRY IN TABLE IRV	F2307200
	07310	1	77777	1	07311		TXI	PR75,1,-1	BUMP IRV TABLE INDEX AND	F2307210
	07311	-0	63400	1	06664	PR75	SXD	IRVXX,1	SAVE IT FOR NEXT ENTRY.	F2307220
	07312	0	02000	0	07315		TRA	PR90		F2307230
	07313	-0	53400	2	06666	PR80	LXD	L(1),2	MAKE TYPE ONE TRASTO ENTRY	F2307240
	07314	0	07400	4	07336		TSX	TRAENT,4		F2307250
	07315	-0	53400	4	07265	PR90	LXD	SYMLNK,4	RESTORE INDEX REG	F2307260
	07316	0	02000	4	00001		TRA	1,4	AND RETURN TO CALLER	F2307270
									ROUTINE PERSPEC IS FOR THE SPECIAL CASE OF A SINGLE SUBSCRIPT	F2307280
									RELCON WITH NO COEFFICIENT (TAGIND EQUALS ONE)	F2307290
	07317	0	50000	1	06407	PRSPEC	CLA	DOTAGZ+8,1	IF DOTAGS	F2307300
	07320	0	77100	0	00022		ARS	18	TEST NAME	F2307310
	07321	0	40200	0	06626		SUB	TAG	IS SAME AS	F2307320
	07322	-0	10000	0	07331		TNZ	PR100	CURRENT FORTAG	F2307330
	07323	0	50000	0	06700		CLA	BIT18	AND IF	F2307340
	07324	-0	32000	1	06405		ANA	DOTAGZ+6,1	THERE IS A	F2307350
	07325	0	10000	0	07315		TZE	PR90		F2307360
	07326	-0	53400	2	06670		LXD	L(3),2	MAKE A TYPE 5 TRASTO ENTRY	F2307370
	07327	0	07400	4	07336		TSX	TRAENT,4		F2307380
	07330	0	02000	0	07315		TRA	PR90		F2307390
	07331	0	07400	4	07564	PR100	TSX	TINFOR,4	LOOK FOR ALREADY PROCESSED IDENT FORTAG.	F2307400
	07332	0	02000	0	07315		TRA	PR90	FOUND.	F2307410
	07333	-0	53400	2	06667		LXD	L(2),2	NOT FOUND, MAKE A TYPE 1 TRASTO	F2307420
	07334	0	07400	4	07336		TSX	TRAENT,4	ENTRY	F2307430
	07335	0	02000	0	07315		TRA	PR90		F2307440

MAKE A TRASTO ENTRY. TRASTO TYPE ONE ENTRY IS MADE WHEN B IS ONE OR TWO, TYPE FIVE ENTRY WHEN B IS THREE, AND TYPE SIX TRASTO ENTRY WHEN B IS ZERO.

07336	-0	63400	4	07375	TRAENT	SXD	TE70,4			F2307450
07337	-0	53400	1	07262		LXD	DOX,1			F2307460
07340	0	50000	1	06377		CLA	DOTAGZ,1	GET DOTAGS ALPHA AND BETA		F2307470
07341	-3	00002	2	07343		TXL	TE10,2,2	WHERE B IS 3 (TYPE5)		F2307480
07342	-0	76000	0	00003		SSM		SET E1 NEG.		F2307490
07343	0	60100	0	07656	TE10	STO	E1	AND STORE IN E1.		F2307500
07344	0	50000	0	06645		CLA	TL2	GET LEVEL OF DOTAG		F2307510
07345	0	77100	0	00022		ARS	18	INTO ADDRESS AND		F2307520
07346	3	00000	2	07350		TXH	TE20,2,0	WHERE B ZERO (TYPE 6),		F2307530
07347	-0	76000	0	00003		SSM		SET NEG AND		F2307540
07350	0	60100	0	07657	TE20	STO	E2	PUT IT INTO E2.		F2307550
07351	-3	00001	2	07361		TXL	TE40,2,1	WHERE B 2OR3 (TYPE 1 OR 5),		F2307560
07352	0	50000	1	06407		CLA	DOTAGZ+8,1	PREPARE DOTAGS		F2307570
07353	-0	32000	0	06704		ANA	DECMSK	TEST NAME .		F2307580
07354	3	00002	2	07357		TXH	TE30,2,2	IF B 2 (TYPE 1)		F2307590
07355	-0	50100	0	06626		ORA	TAG	PREPARE FORTAG INDEX AND		F2307600
07356	0	02000	0	07367		TRA	TE60	GO TO STORE IN E3.		F2307610
07357	-0	50100	1	06401	TE30	ORA	DOTAGZ+2,1	WHERE B IS 3, (TYPE 5) PREPARE DOTAGS		F2307620
07360	0	02000	0	07366		TRA	TE50	PARAMETER N1.		F2307630
07361	0	50000	0	06626	TE40	CLA	TAG	WHERE B ZERO OR 1 (TYPE 1), GET FORTAG		F2307640
07362	-3	00000	2	07366		TXL	TE50,2,0	AND WHEN ONE,		F2307650
07363	0	76700	0	00022		ALS	18	PUT IN DEC WITH		F2307660
07364	0	40000	0	06627		ADD	TS	NEW TAG NAME IN ADDRESS.		F2307670
07365	0	02000	0	07367		TRA	TE60			F2307680
07366	-0	76000	0	00003	TE50	SSM		SET MINUS FOR B ZERO OR 3 (TYPE 6OR5)		F2307690
07367	0	60100	0	07660	TE60	STO	E3	AND STORE IN E3, FINALLY.		F2307700
07370	-0	50000	0	07663		CAL	TRASTO	GET TRASTO KEY WORD.		F2307710
07371	-0	53400	2	06667		LXD	L(2),2	INDICATE TINFOR SEARCH NOT REQUIRED		F2307720
07372	-0	53400	4	06656		LXD	SKIP,4			F2307730
07373	3	00000	4	07376		TXH	TE80,4,0	IF SKIP IS 1 (DELTA GREATER THEN B),		F2307740
07374	0	07400	4	07401		TSX	SPC000,4	GO TO SPC.		F2307750
07375	-3	00000	0	07377	TE70	TXL	TE90,0	(DEC SAVES TSXLINK)		F2307760
07376	0	07400	4	07620	TE80	TSX	LIST,4	GO TO LIST KF SKIP IS ZERO.		F2307770
07377	-0	53400	4	07375	TE90	LXD	TE70,4	RETURN FROM LIST.		F2307780
07400	0	02000	4	00001		TRA	1,4	RETURN TO CALLER.		F2307790
							SUBROUTINE SPC000			F2307800
07401	-0	63400	1	07473	SPC000	SXD	SPC115,1	SAVE INDEX OF DO TO BE SEARCHED.		F2307810
07402	-0	63400	2	07446		SXD	SPC060,2	SAVE TINFOR, LIST INDICATOR		F2307820
07403	-0	63400	4	07463		SXD	SPC105,4	SAVE TSX INDEX.		F2307830
07404	0	60100	0	07512		STO	SPCKEY	SAVE LIST KEY WORD		F2307840
07405	0	50000	1	06404		CLA	DOTAGZ+5,1	OBTAIN L WORD		F2307850
07406	0	62200	0	07423		STD	SPC050	INITIALIZE TEST INSTR.		F2307860
07407	0	50000	1	06377		CLA	DOTAGZ,1	OBTAIN ALPHABETA WRD,		F2307870
07410	0	73400	2	00000		PAX	0,2	SAVE BETA,		F2307880
07411	-0	32000	0	06704		ANA	DECMSK	OBTAIN ALPHA ALONE		F2307890
07412	0	60100	0	06660		STO	NEXTA	STO IN NEXTA		F2307900
07413	0	60100	0	06662		STO	A	AND STORE IN A.		F2307910
07414	-0	75400	2	00000		PXD	0,2	PUT BETA IN LASTB AND		F2307920
07415	0	60100	0	06661		STO	LASTB	BEGIN SEARCH FOR R2		F2307930
07416	-0	53400	1	07473	SPC010	LXD	SPC115,1	OBTAIN CURRENT INDEX AND		F2307940
07417	1	77767	1	07420	SPC020	TXI	SPC040,1,-9	GO DOWN ONE DO, IF POSSIBLE, ELSE		F2307950
										F2307960
										F2307970
										F2307980

D	07420	-3	00000	1	07464	SPC040	TXL	SPC110,1	GO TO SET UP LAST INTERVAL. (DEC HAS DOTAG IX)	F2307990
	07421	0	50000	1	06404		CLA	DOTAGZ+5,1	TEST WHETHER OR NOT THIS DO	F2308000
	07422	-0	73400	2	00000		PDX	0,2	IS IN RANGE OF R1(DXL)	F2308010
D	07423	-3	00000	2	07464	SPC050	TXL	SPC110,2	IF NOT, EXIT FOR LAST INTRVL. (DEC LEV DO)	F2308020
	07424	0	50000	1	06400		CLA	DOTAGZ+1,1	IF IN R1, IS THIS DO TO BE	F2308030
	07425	0	40200	0	06634		SUB	RSYM3	SKIPPED. IF NOT, GO BACK TO	F2308040
	07426	0	10000	0	07432		TZE	SPC053	GET NEXT DO.	F2308050
	07427	0	50000	1	06400		CLA	DOTAGZ+1,1		F2308060
	07430	0	40200	0	06633		SUB	RSYM2		F2308070
	07431	-0	10000	0	07417		TNZ	SPC020		F2308080
	07432	0	50000	1	06377	SPC053	CLA	DOTAGZ,1	R2 FOUND, ARRANGE TO SKIP THIS	F2308090
	07433	0	73400	2	00000		PAX	0,2	INTERVAL. USE ALPHA OF R2	F2308100
	07434	-0	32000	0	06704		ANA	DECM5K	AS B, PUT BETA OF R2 IN	F2308110
	07435	0	60100	0	06663		STO	B	NEXTA.	F2308120
	07436	-0	75400	2	00000		PXD	0,2	DO FORMULAS WITHIN R2 ARE	F2308130
	07437	0	60100	0	06660		STO	NEXTA	ACCOUNTED FOR AFTER SEARCH.	F2308140
	07440	-0	63400	1	07473		SXD	SPC115,1	SAVE INDEX OF R2.	F2308150
	07441	-0	53400	2	07446	SPC055	LXD	SPC060,2	PUT TINFOR, LIST IND. IN XRB	F2308160
	07442	0	50000	0	06662	SPC058	CLA	A	FOR	F2308170
	07443	0	40200	0	06663		SUB	B	NON EMPTY	F2308180
	07444	0	10000	0	07447		TZE	SPC065	INTERVALS,	F2308190
	07445	-3	00001	2	07500		TXL	SPCT1N,2,1	GO TO ARRANGE TINFOR SEARCH, OR	F2308200
D	07446	-3	00000	0	07503	SPC060	TXL	SPCST0,0	TRA TO USE LIST. (DEC HAS TINFOR SEARCH INDIC)	F2308210
	07447	-0	53400	2	07446	SPC065	LXD	SPC060,2	RETURN HERE, TEST TINFOR	F2308220
	07450	-3	00000	2	07474		TXL	SPC120,2,0	LIST IND. IF ZERO, EXIT.	F2308230
	07451	-0	53400	1	07473	SPC070	LXD	SPC115,1	TO SET UP NEXT INTERVAL,	F2308240
	07452	0	50000	1	06404		CLA	DOTAGZ+5,1	OBTAIN INDEX OF LAST R2 AND	F2308250
	07453	0	62200	0	07460		STD	SPC100	STEP DOWN IN DOTAG BY USUAL	F2308260
	07454	1	77767	1	07455	SPC080	TXI	SPC090,1,-9	PROCEDURE UNTIL SOME DO IS	F2308270
D	07455	-3	00000	1	07464	SPC090	TXL	SPC110,1	FOUND NOT IN R2, OR UNTIL (DEC HAS DOTAG TX)	F2308280
	07456	0	50000	1	06404		CLA	DOTAGZ+5,1	DOTAG EXHAUSTED. IF DO FOUND	F2308290
	07457	-0	73400	2	00000		PDX	0,2	NOT IN R2, SET A AND GO TO TEST	F2308300
D	07460	3	00000	2	07454	SPC100	TXH	SPC080,2	IF THIS DO IS IN R1. (DEC HAS LEV LAST R2 DO)	F2308310
	07461	0	50000	0	06660		CLA	NEXTA	IF IT IS, NEWR2 WILL BE FOUND	F2308320
	07462	0	60100	0	06662		STO	A	OR EXIT MADE TO SPC110.	F2308330
D	07463	-3	00000	0	07423	SPC105	TXL	SPC050,0		F2308340
	07464	0	50000	0	06660	SPC110	CLA	NEXTA	THIS IS SETUP FOR LAST	F2308350
	07465	0	60100	0	06662		STO	A	INTERVAL. FOR A, USE	F2308360
	07466	0	50000	0	06661		CLA	LASTB	CONTENTS OF NEXTA. FOR B,	F2308370
	07467	0	60100	0	06663		STO	B	USE BETA OF R1, FOUND IN	F2308380
	07470	-0	53400	2	07446		LXD	SPC060,2	LASTB. OBTAIN TINFOR, STOTAG	F2308390
	07471	0	50000	0	06665		CLA	L(0)	IND, AND SET LOCATION OF	F2308400
	07472	0	62200	0	07446		STD	SPC060	INDICATOR TO ZERO. GO TO	F2308410
D	07473	-3	00000	0	07442	SPC115	TXL	SPC058,0	TINFOR OR TRASTO. (DEC HAS DOTAG IX)	F2308420
	07474	-0	53400	4	07463	SPC120	LXD	SPC105,4	EXIT, ALL STORES DONE, OR,	F2308430
	07475	0	02000	4	00001		TRA	1,4	SEARCH MADE, T NOT FOUND.	F2308440
	07476	-0	53400	4	07463	SPC130	LXD	SPC105,4	EXIT, T FOUND	F2308450
	07477	0	02000	4	00002		TRA	2,4	IN SOME INTERVAL	F2308460
	07500	0	07400	4	07572	SPCTIN	TSX	TINFXX,4	GO TO SEARCH FORTAG	F2308470
	07501	0	02000	0	07476		TRA	SPC130	T FOUND	F2308480
	07502	0	02000	0	07447		TRA	SPC065	T NOT FOUND	F2308490
	07503	0	50000	0	06663	SPCST0	CLA	B	FOR TRASTO, E2 AND E3 ARE	F2308500
	07504	0	77100	0	00022		ARS	18	ALREADY SET UP. COLLECT	F2308510
	07505	0	40000	0	06662		ADD	A	A AND B INTO E1 WORD,	F2308520

	07506	0	60100	0	07656	STO E1	PUT TRASTO INDICATOR IN	F2308530
	07507	0	50000	0	07512	CLA SPCKEY	ACC. AND	F2308540
	07510	0	07400	4	07620	TSX LIST,4	TSX TO LISTING ROUTINE.	F2308550
	07511	0	02000	0	07447	TRA SPC065	ON RETURN, GO TO TEST FINISH.	F2308560
A	07512	0	00000	0	00000	SPCKEY HTR	STORAGE FOR TABLEKEY	F2308570
						SUBROUTINE TRAWRD		F2308580
	07513	-0	63400	4	07545	TRAWRD SXD TRAW65,4		F2308590
	07514	0	50000	0	06665	CLA L(0)		F2308600
	07515	0	60100	0	06657	STO TRABIT	INITIALIZE.	F2308610
	07516	0	50000	1	06404	CLA DOTAGZ+5,1	LEVEL OF DOTAG	F2308620
	07517	0	62200	0	07526	STD TRAW30		F2308630
	07520	-0	50000	1	06406	TRAW10 CAL DOTAGZ+7,1	OBTAIN T2 WORD.	F2308640
	07521	-0	60200	0	06657	ORS TRABIT	OR INTO TRABIT	F2308650
	07522	1	77767	1	07523	TXI TRAW20,1,-9	TAKE NEXT DO	F2308660
D	07523	-3	00000	1	07546	TRAW20 TXL TRAW70,1	IF NONE, EXIT (DEC HAS DOTAG IX)	F2308670
	07524	0	50000	1	06404	CLA DOTAGZ+5,1	ODTAIN L WORD	F2308680
	07525	-0	73400	4	00000	PDX 0,4	PUT L IN XRC.	F2308690
D	07526	-3	00000	4	07546	TRAW30 TXL TRAW70,4	EXIT IF DO IS NOT INRANGE R1 (DEC HAS LEV DO)	F2308700
	07527	-3	00001	2	07520	TXL TRAW10,2,1	IF COMPLETE TEST, GO BACK (NO TRAWORD SKIP)	F2308710
	07530	0	50000	1	06400	TRAW35 CLA DOTAGZ+1,1	IF INCOMPLETE TEST, IS THIS A	F2308720
	07531	0	40200	0	06633	SUB RSYM2	DO TO BE SKIPPED	F2308730
	07532	0	10000	0	07536	TZE TRAW38	IF SO, GO TO TRAW38	F2308740
	07533	0	50000	1	06400	CLA DOTAGZ+1,1	TEST RSYM3	F2308750
	07534	0	40200	0	06634	SUB RSYM3	IF NO SKIP	F2308760
	07535	-0	10000	0	07520	TNZ TRAW10	GO BACK.	F2308770
	07536	0	50000	1	06404	TRAW38 CLA DOTAGZ+5,1	THIS DO IS TO BE SKIPPED.	F2308780
	07537	0	62200	0	07544	STD TRAW60	PUT LEVEL OF THIS DO IN TEST INSTR.	F2308790
	07540	1	77767	1	07541	TRAW40 TXI TRAW50,1,-9	TAKE NEXT DO IF ANY	F2308800
D	07541	-3	00000	1	07546	TRAW50 TXL TRAW70,1	IF NOT, EXIT, OTHERWISE, (DEC HAS DO IX)	F2308810
	07542	0	50000	1	06404	CLA DOTAGZ+5,1	ODTAIN L WORD	F2308820
	07543	-0	73400	4	00000	PDX 0,4	PUT L IN XRC	F2308830
D	07544	3	00000	4	07540	TRAW60 TXH TRAW40,4	IF DO IS IN RANGE OF R2, GO BACK.	F2308840
D	07545	-3	00000	0	07526	TRAW65 TXL TRAW30,0	OTHERWISE, GO TO TRAW30	F2308850
	07546	-0	53400	4	07545	TRAW70 LXD TRAW65,4		F2308860
	07547	0	50000	0	06672	CLA L(36)	OBTAIN 36 IN DECREMENT	F2308870
	07550	0	40200	0	06645	SUB TL2	36-TL2 (LEVEL OF DOTAG)	F2308880
	07551	0	77100	0	00022	ARS 18	IN ADDRESS	F2308890
	07552	0	62100	0	07561	STA TRAW90	INITIALIZE SHIFT	F2308900
	07553	0	50000	0	06645	CLA TL2	OBTAIN TL2	F2308910
	07554	0	77100	0	00022	ARS 18	IN ADDRESS	F2308920
	07555	0	62100	0	07560	STA TRAW80	INITIALIZE SHIFT	F2308930
	07556	0	50000	0	06665	CLA L(0)	ACC CONTAINS ZERO	F2308940
	07557	0	56000	0	06702	LDQ 35ONES	MQ CONTAINS ALL ONES	F2308950
A	07560	0	76300	0	00000	TRAW80 LLS	PUT TL2 ONES IN ACC (LEV. DOTAG)	F2308960
A	07561	0	76700	0	00000	TRAW90 ALS	POSITION ONES IN ACC	F2308970
	07562	-0	32000	0	06657	ANA TRABIT	AND IN TRANSFER BITS	F2308980
	07563	0	02000	4	00001	TRA 1,4	GO BACK TO CALLING INSTR PLUS ONE.	F2308990
						SUBROUTINES TINFOR AND TINFX		F2309000
	07564	0	50000	1	06377	TINFOR CLA DOTAGZ,1	C(XRA)=INDEX OF DO TO BE	F2309010
	07565	0	73400	1	00000	PAX 0,1	SEARCHED. SEPARATE ALPHA	F2309020
	07566	-0	32000	0	06704	ANA DECMASK	AND BETA	F2309030
	07567	0	60100	0	06662	STO A	AND STORE IN A	F2309040
	07570	-0	75400	1	00000	PXD 0,1		F2309050
	07571	0	60100	0	06663	STO B	B	F2309060

	07572	-0	53400	1	06674	TINFX	LXD	L(1500,1	PUT MAX FORTAG INDEX IN XRA	F2309070
	07573	0	50000	1	03670	TINF10	CLA	FORTZ,1	OBTAIN FORTAG ENTRY	F2309080
	07574	-0	32000	0	06704		ANA	DECMK	RETAIN FORMULA NUMBER ONLY	F2309090
	07575	0	34000	0	06662		CAS	A	COMPARE ALPHA AND FORMULA NR.	F2309100
	07576	0	02000	0	07603		TRA	TINF40	FOR. NR. GREATER THAN ALPHA. TRA.	F2309110
	07577	0	76100	0	00000		NOP		C(A) MAY BE SOME BETA FROM SPC, HENCE, NO HALT.	F2309120
	07600	1	77777	1	07601	TINF20	TXI	TINF30,1,-1	FOR. NR. LESS THAN ALPHA. GO	F2309130
									BACK FOR NEXT FORTAG ENTRY	F2309140
D	07601	3	00000	1	07573	TINF30	TXH	TINF10,1	IF POSSIBLE. OTHERWISE, (DEC HAS FORTAG IX)	F2309150
	07602	0	02000	4	00002		TRA	2,4	RETURN TO CALLING INSTR PLUS TWO.	F2309160
	07603	0	34000	0	06663	TINF40	CAS	B	COMPARE FOR. NR. WITH BETA	F2309170
	07604	0	02000	4	00002		TRA	2,4	FOR. NR. GREATER THAN BETA, EXIT.	F2309180
	07605	0	76100	0	00000		NOP		FOR. NR. EQUAL TO OR	F2309190
	07606	0	50000	1	03670		CLA	FORTZ,1	LESS THAN BETA, OBTAIN FORTAG	F2309200
	07607	0	12000	0	07600		TPL	TINF20	TAG AND COMPARE WITH SEARCH TAG.	F2309210
	07610	-0	32000	0	06703		ANA	ADDMSK	I.F. NOT EQUAL, GO BACK FOR NEXT TAG	F2309220
	07611	0	40200	0	06626		SUB	TAG		F2309230
	07612	-0	10000	0	07600		TNZ	TINF20	IF EQUAL, RETURN TO CALLING	F2309240
	07613	0	02000	4	00001		TRA	1,4	INSTR PLUS ONE. XRA CONTAINS IX IN FORTAG OF	F2309250
									FIRST TAG FOUND	F2309260
					06721		ORG	3537		F2309270
									MASTER RECORD CARD = FN043	F2309275
	06721	-0	53400	1	00733	BL3C	LXD	FORTAG-1,1	IF FORTAG IS EMPTY,	F2309280
	06722	3	02733	1	07164		TXH	WRTIRV,1,1499	GO TO WRITE IRV	F2309290
									READ IN TSXCOM	F2309300
	06723	-0	53400	4	06671	RDTSX	LXD	L(6),4	INITIALIZE ERROR COUNTER	F2309312
	06724	0	50000	0	07667	RTSX10	CLA	LADDS	COMPUTE NUMBER	F2309320
	06725	0	40200	0	06716		SUB	TSXORG	OF TSXCOM ENTRIES	F2309330
	06726	0	73400	1	00000		PAX	0,1	AND	F2309340
	06727	-0	63400	1	00030		SXD	TCOM-1,1	SAVE.	F2309350
	06730	0	10000	0	06763		TZE	RTSX60	IF EMPTY, GO TO EXIT.	F2309360
	06731	0	40000	0	06717		ADD	TCOMAD	OTHERWISE, COMPUTE TERMINAL CORE ADDRESS	F2309370
	06732	0	62100	0	06735		STA	RTSX20	AND INITIALIZE CPY ADDRESS THEREWITH.	F2309380
	06733	0	76200	0	00303		RDS	195	DRUM 3	F2309390
	06734	0	46000	0	06716		LDA	TSXORG	ORIG OF TSXCOM TABLES ON DRUM	F2309400
	06735	0	70000	1	00000	RTSX20	CPY	0,1	READ TSXCOM (ADD HAS TERM CORE ADD TSXCOM)	F2309410
	06736	2	00001	1	06735		TIX	RTSX20,1,1	TABLES .	F2309420
	06737	-0	53400	1	00030		LXD	TCOM-1,1	COMPUTE	F2309430
	06740	-0	75400	1	00000		PXD	0,1	NUMBER OF	F2309440
	06741	-0	76000	0	00003		SSM		UNFILLED TSXCOM TABLE	F2309450
	06742	0	40000	0	06720		ADD	TCOMAX	SPACES,	F2309460
	06743	0	60100	0	00030		STO	TCOM-1	SAVE,	F2309470
	06744	0	62200	0	06756		STD	RTSX30	AND INITIALIZE.	F2309480
	06745	-0	53400	1	06720		LXD	TCOMAX,1	COMPUTE	F2309490
	06746	-0	50000	1	01407	RTSX25	CAL	TCOMZ,1	CHECK	F2309500
	06747	0	36100	1	01410		ACL	TCOMZ+1,1	SUM FOR EACH TABLE ENTRY	F2309510
	06750	0	60200	0	06760		SLW	RTSX40	AND COMPARE	F2309520
	06751	0	50000	0	06760		CLA	RTSX40	AGAINST	F2309530
	06752	0	40200	1	01411		SUB	TCOMZ+2,1	GIVEN SUM.	F2309540
	06753	0	76100	0	00000		NOP			F2309550
	06754	-0	10000	0	06761		TNZ	RTSX50	ERROR.	F2309560
	06755	1	77775	1	06756		TXI	RTSX30,1,-3		F2309570
D	06756	3	00000	1	06746	RTSX30	TXH	RTSX25,1	IF COMPLETE, (DEC HAS UNUSED TSXCOM BUFFER)	F2309580
	06757	0	02000	0	06766		TRA	SORT	GO TO SORT.	F2309590



A	06760	0	00000	0	00000	RTSX40	HTR		F2309600
	06761	2	00001	4	06724	RTSX50	TIX RTSX10,4,1	GO BACK TO REREAD	F2309610
	06762	0	07400	4	00004		TSX DIAG,4	READING TSXCOM FROM DRUM3. ERROR. GO TO DIAGNOSTIC.	F2309625
	06763	0	50000	0	06720	RTSX60	CLA TCOMAX	IF TSXCOM EMPTY PUT MAX NO	F2309630
	06764	0	60100	0	00030		STO TCOM-1	TSXCOM ENTRIES IN KEY WORD AND	F2309640
	06765	0	02000	0	07053		TRA IRVSRT	EXIT.	F2309650
							SORT TSXCOM		F2309660
	06766	-0	76000	0	00144	SORT	MSE LIGHT	TURN OFF LIGHT	F2309670
	06767	0	76100	0	00000		NOP		F2309680
	06770	-0	53400	1	00030		LXD TCOM-1,1	INITIALIZE	F2309690
	06771	1	00003	1	06772		TXI SORT10,1,3		F2309700
	06772	3	01353	1	07034	SORT10	TXH MAKIRV,1,747	IS THERE ONLY ONE ENTRY IN TSXCOM.	F2309710
	06773	-0	63400	1	07025		SXD SORT80,1	INITIALIZE	F2309720
	06774	-0	53400	1	06720	SORT20	LXD TCOMAX,1		F2309730
	06775	0	50000	1	01407	SORT30	CLA TCOMZ,1	OBTAIN FIRST WORD, FIRST ENTRY TSXCOM (ALPHA)	F2309740
	06776	0	34000	1	01412		CAS TCOMZ+3,1	COMPARE IT AGAINST SECOND ENTRY	F2309750
	06777	0	02000	0	07007		TRA SORT50	OUT OF ORDER, REARRANGE TOTAL TSXCOM ENTRY.	F2309760
	07000	0	02000	0	07002		TRA SORT40	IN ORDER BY FIRST WORDS. GO CHECK 2ND WORDS.	F2309770
	07001	0	02000	0	07024		TRA SORT70	ENTRIES IN ORDER, IGNORE.	F2309780
	07002	0	50000	1	01410	SORT40	CLA TCOMZ+1,1	ALRIGHT- FIRST WORDS IN ORDER BUT	F2309790
	07003	0	34000	1	01413		CAS TCOMZ+4,1	HOW DO THEIR 2ND WORDS COMPARE.	F2309800
	07004	0	02000	0	07013		TRA SORT60	IF OUT OF ORDER, GO TO REARRANGE.	F2309810
	07005	0	02000	0	07024		TRA SORT70	IF EQUAL OR	F2309820
	07006	0	02000	0	07024		TRA SORT70	IF IN ORDER, IGNORE.	F2309830
	07007	0	50000	1	01407	SORT50	CLA TCOMZ,1	FIRST ENTRY GREATER, OUT OF ORDER 1ST WORDS.	F2309840
	07010	0	56000	1	01412		LDQ TCOMZ+3,1	INTERCHANGE THE FIRST WORDS	F2309850
	07011	0	60100	1	01412		STO TCOMZ+3,1	OF THE	F2309860
	07012	-0	60000	1	01407		STQ TCOMZ,1	TWO ENTRIES.	F2309870
	07013	0	50000	1	01410	SORT60	CLA TCOMZ+1,1	INTERCHANGE	F2309880
	07014	0	56000	1	01413		LDQ TCOMZ+4,1	THE	F2309890
	07015	0	60100	1	01413		STO TCOMZ+4,1	SECOND	F2309900
	07016	-0	60000	1	01410		STQ TCOMZ+1,1	AND	F2309910
	07017	0	50000	1	01411		CLA TCOMZ+2,1	THIRD	F2309920
	07020	0	56000	1	01414		LDQ TCOMZ+5,1	WORDS	F2309930
	07021	0	60100	1	01414		STO TCOMZ+5,1	OF THE	F2309940
	07022	-0	60000	1	01411		STQ TCOMZ+2,1	TWO ENTRIES.	F2309950
	07023	0	76000	0	00144		PSE LIGHT	INDICATE OUT OF ORDER ENTRY HAS BEEN FOUND.	F2309960
	07024	1	77775	1	07025	SORT70	TXI SORT80,1,-3	BUMP FOR NEXT COMPARISON.	F2309970
D	07025	3	00000	1	06775	SORT80	TXH SORT30,1	IS PASS COMPLETE. (DEC HAS UNUSED TSXCOM BUFF+3)	F2309980
	07026	-0	76000	0	00144		MSE LIGHT	YES. WAS OUT OF ORDER ENTRY APPREHENDED.	F2309990
	07027	0	02000	0	07034		TRA REMOVE	NO. GO TO MAKIRV.	F2310000
	07030	-0	53400	1	07025		LXD SORT80,1	YES. NUMBER OF COMPARISONS	F2310010
	07031	1	00003	1	07032		TXI SORT90,1,3	MADE IS DECREASED BY ONE	F2310020
	07032	-0	63400	1	07025	SORT90	SXD SORT80,1	ON EACH PASS.	F2310030
	07033	0	02000	0	06774		TRA SORT20		F2310040
							BUILD UP TABLE IRV FROM TSXCOM		F2310050
	07034	-0	53400	2	06664	MAKIRV	LXD IRVXX,2	(IX VALUE FOR NEXT IRV ENTRY)	F2310060
	07035	-0	53400	1	00030		LXD TCOM-1,1		F2310070
	07036	-0	63400	1	07051		SXD MAK50,1		F2310080
	07037	-0	53400	1	06720		LXD TCOMAX,1		F2310090
	07040	-0	50000	1	01410	MAK10	CAL TCOMZ+1,1	GET SECOND WORD OF TSXCOM.	F2310100
	07041	-0	32000	0	06705		ANA PREMSK	PULL OUT PREFIX.	F2310110
	07042	-0	10000	0	07050		TNZ MAK40	IS ANYTHING THERE.	F2310120
	07043	0	50000	1	01410		CLA TCOMZ+1,1		F2310130

	07044	3	00000	2	07046	TXH MAK20,2,0		F2310140
	07045	0	07400	4	00004	TSX DIAG,4	TABLE IRV BUFFER FULL. ERROR. GO TO DIAGNOSTIC.	F2310155
	07046	0	60100	2	06625	MAK20 STO IRVZ,2	STORE IRV.	F2310160
	07047	1	77777	2	07050	TXI MAK40,2,-1		F2310170
	07050	1	77775	1	07051	MAK40 TXI MAK50,1,-3		F2310180
D	07051	3	00000	1	07040	MAK50 TXH MAK10,1	IS TSXCOM TABLE EXHAUST (DEC HAS UNUSED TSXCOM)	F2310190
	07052	-0	63400	2	06664	MAK60 SXD IRVXX,2	YES. SAVE INDICATION OF SIZE OF IRV.	F2310200
							SORT TABLE IRV.	F2310210
	07053	-0	53400	1	06664	IRVSRT LXD IRVXX,1		F2310220
	07054	1	00001	1	07055	TXI IRVS10,1,1		F2310230
	07055	3	00225	1	07120	IRVS10 TXH WRTTSX,1,149	IS THERE BUT ONE ENTRY IN IRV.	F2310240
	07056	-0	63400	1	07067	SXD IRVS50,1		F2310250
	07057	-0	76000	0	00144	MSE LIGHT	TURN OFF LITE.	F2310260
	07060	0	76100	0	00000	NOP		F2310270
	07061	-0	53400	1	06714	IRVS20 LXD IRVMAX,1	INITIALIZE	F2310280
	07062	0	50000	1	06625	IRVS30 CLA IRVZ,1	GET FIRST IRV ENTRY AND	F2310290
	07063	0	34000	1	06626	CAS IRVZ+1,1	COMPARE AGAINST ITS NEIGHBOR.	F2310300
	07064	0	02000	0	07073	TRA IRVS60	OUT OF ORDER. GO TO REARRANGE.	F2310310
	07065	0	76100	0	00000	NOP		F2310320
	07066	1	77777	1	07067	IRVS40 TXI IRVS50,1,-1	BUMP FOR NEXT COMPARISON	F2310330
D	07067	3	00000	1	07062	IRVS50 TXH IRVS30,1	IS PASS COMPLETE (DEC HAS IRV INDEX)	F2310340
	07070	-0	76000	0	00144	MSE LIGHT	YES. WAS OUT OF ORDER NABBED.	F2310350
	07071	0	02000	0	07100	TRA DELETE	NO. SORT COMPLETE.	F2310360
	07072	0	02000	0	07061	TRA IRVS20	YES. MAKE ANOTHER PASS.	F2310370
	07073	0	56000	1	06626	IRVS60 LDQ IRVZ+1,1	REARRANGE	F2310380
	07074	0	60100	1	06626	STO IRVZ+1,1	THE OUT OF ORDER	F2310390
	07075	-0	60000	1	06625	STQ IRVZ,1	IRV ENTRIES AND	F2310400
	07076	0	76000	0	00144	PSE LIGHT	INDICATE SAME.	F2310410
	07077	0	02000	0	07066	TRA IRVS40		F2310420
							DELETE DUPE ENTRIES FROM TABLE IRV	F2310430
	07100	-0	53400	1	06664	DELETE LXD IRVXX,1		F2310440
	07101	-0	63400	1	07112	SXD DEL30,1	INITIALIZE	F2310450
	07102	-0	53400	3	06714	LXD IRVMAX,3	INITIALIZE CANDIDATE IR AND STANDARD IR	F2310460
	07103	2	00001	2	07104	TIX DEL10,2,1	BUMP CANDIDATE IR.	F2310470
	07104	0	50000	2	06625	DEL10 CLA IRVZ,2	GET CANDIDATE.	F2310480
	07105	0	34000	1	06625	CAS IRVZ,1	COMPARE AGAINST STANDARD.	F2310490
	07106	0	02000	0	07116	TRA DEL40	CANDIDATE DOES NOT MATCH STANDARD.	F2310500
	07107	0	02000	0	07111	TRA DEL20	CAND MATCHES STAND. IGNORE ITS REINSTATEMENT.	F2310510
	07110	0	07400	4	00004	TSX DIAG,4	IRV UNORDERED DESPITE SORT. ERROR. GO TO DIAGNOSTIC.	F2310525
	07111	1	77777	2	07112	DEL20 TXI DEL30,2,-1	BUMP FOR NEXT CANDIDATE.	F2310530
	07112	3	00000	2	07104	DEL30 TXH DEL10,2	IS IT END OF PASS. (DEC HAS IRV INDEX)	F2310540
D	07113	1	77777	1	07114	TXI DEL35,1,-1	YES. BUMP STANDARD IR.	F2310550
	07114	-0	63400	1	06664	DEL35 SXD IRVXX,1	SAVE NEW EDITED-IRV TABLE-SIZE INDICATION.	F2310560
	07115	0	02000	0	07120	TRA WRTTSX		F2310570
	07116	0	60100	1	06626	DEL40 STO IRVZ+1,1	NOT DUPE, PUT CANDIDATE BACK.	F2310580
	07117	1	77777	1	07111	TXI DEL20,1,-1	AND INSTALL IT AS STANDARD.	F2310590
							WRITE EDITED TSXCOM TABLE ON DRUM	F2310600
	07120	0	76600	0	00303	WRTTSX WRS ADRUM		F2310610
	07121	-0	53400	1	00030	LXD TCOM-1,1	INITIALIZE	F2310620
	07122	-0	63400	1	07133	SXD WTSX30,1		F2310630
	07123	-0	53400	1	06720	LXD TCOMAX,1		F2310640
	07124	-0	75400	0	00000	PXD 0,0		F2310650
	07125	-0	53400	2	06665	LXD L(0),2		F2310660
	07126	0	02000	0	07133	TRA WTSX30		F2310670

	07127	0	36100	1	01407	WTSX10	ACL	TCOMZ,1	COMPUTE	F2310680
	07130	0	36100	1	01410		ACL	TCOMZ+1,1	CHECK SUM OF ALL ENTRIES	F2310690
	07131	1	77775	1	07132		TXI	WTSX20,1,-3		F2310700
	07132	1	00002	2	07133	WTSX20	TXI	WTSX30,2,2		F2310710
D	07133	3	00000	1	07127	WTSX30	TXH	WTSX10,1	IS THAT ALL OF TSXCOM. (DEC HAS TSXCOM LIMIT)	F2310720
	07134	0	60200	0	07163		SLW	WTSX60	STORE CHECK SUM.	F2310730
	07135	-0	53400	1	00030		LXD	TCOM-1,1	COMPUTE	F2310740
	07136	-0	75400	1	00000		PXD	0,1	NUMBER	F2310750
	07137	-0	76000	0	00003		SSM		OF	F2310760
	07140	0	40000	0	06720		ADD	TCOMAX	TSXCOM	F2310770
	07141	-0	73400	1	00000		PDX	0,1	ENTRIES.	F2310780
	07142	0	77100	0	00022		ARS	18	COMPUTE CORE	F2310790
	07143	0	40000	0	06717		ADD	TCOMAD	TERMINUS	F2310800
	07144	0	62100	0	07155		STA	WTSX40	AND INITIALIZE CPY ADDRESS FOR FIRST WORD,	F2310810
	07145	0	40000	0	06675		ADD	L(1)A	FOR SECOND	F2310820
	07146	0	62100	0	07156		STA	WTSX50	WORD.	F2310830
	07147	-0	75400	2	00000		PXD	0,2		F2310840
	07150	0	60100	0	00030		STO	TCOM-1	NOW CONTAINS NO OF TSXCOM ENTRIES MINUS C.S.	F2310850
	07151	0	46000	0	06715		LDA	TCOMOR		F2310860
	07152	0	70000	0	00030		CPY	TCOM-1	CPY WORD COUNT	F2310870
	07153	0	70000	0	00030		CPY	TCOM-1	ONTO DRUM	F2310880
	07154	-3	00000	2	07164		TXL	WRTIRV,2,0	IF EMPTY, EXIT.	F2310890
	07155	0	70000	1	00000	WTSX40	CPY	0,1	WRITE TSXCOM ENTRIES	F2310900
	07156	0	70000	1	00000	WTSX50	CPY	0,1	ONTO DRUM	F2310910
	07157	2	00003	1	07155		TIX	WTSX40,1,3		F2310920
	07160	0	70000	0	07163		CPY	WTSX60	CHECKSUM	F2310930
	07161	0	70000	0	07163		CPY	WTSX60		F2310940
	07162	0	02000	0	07164		TRA	WRTIRV		F2310950
A	07163	0	00000	0	00000	WTSX60	HTR		C.S. STORAGE	F2310960
	07164	0	76600	0	00303	WRTIRV	WRS	ADRU	WRITE EDITED TABLE IRV ON DRUM	F2310970
	07165	-0	53400	1	06664		LXD	IRVXX,1		F2310980
	07166	-0	63400	1	07173		SXD	WIRV20,1	INITIALIZE TEST INSTR.	F2310990
	07167	-0	75400	0	00000		PXD	0,0		F2311000
	07170	-0	53400	1	06714		LXD	IRVMAX,1		F2311010
	07171	0	36100	1	06625	WIRV10	ACL	IRVZ,1	COMPUTE CHECK SUM.	F2311020
	07172	1	77777	1	07173		TXI	WIRV20,1,-1		F2311030
D	07173	3	00000	1	07171	WIRV20	TXH	WIRV10,1	IS IRV DONE FOR. (DEC HAS IRV IX)	F2311040
	07174	0	60200	0	07217		SLW	WIRV40	YES. SAVE C.S.	F2311050
	07175	-0	53400	1	06664		LXD	IRVXX,1	COMPUTE	F2311060
	07176	-0	75400	1	00000		PXD	0,1	NUMBER	F2311070
	07177	-0	76000	0	00003		SSM		OF	F2311080
	07200	0	40000	0	06714		ADD	IRVMAX	IRV ENTRIES	F2311090
	07201	0	60100	0	06664		STO	IRVXX	AND SAVE.	F2311100
	07202	-0	73400	1	00000		PDX	0,1	COMPUTE	F2311110
	07203	0	77100	0	00022		ARS	18	CORE TERMINUS	F2311120
	07204	0	40000	0	06713		ADD	IRVAD	OF IRV.	F2311130
	07205	0	62100	0	07212		STA	WIRV30	INITIALIZE CPY.	F2311140
	07206	0	46000	0	06712		LDA	IRVORG		F2311150
	07207	0	70000	0	06664		CPY	IRVXX	WRITE WORD	F2311160
	07210	0	70000	0	06664		CPY	IRVXX	COUNT.	F2311170
	07211	-3	00000	1	07220		TXL	END,1,0	EXIT IF IRV EMPTY.	F2311180
	07212	0	70000	1	00000	WIRV30	CPY	0,1	WRITE IRV.	F2311190
	07213	2	00001	1	07212		TIX	WIRV30,1,1		F2311200
										F2311210

	07214	0	70000	0	07217	CPY	WIRV40
	07215	0	70000	0	07217	CPY	WIRV40
	07216	0	02000	0	07220	TRA	END
A	07217	0	00000	0	00000	WIRV40	HTR
	07220	0	76600	0	00303	END	WRS 195
	07221	0	50000	0	07670	CLA	LADDS+1
	07222	0	40200	0	07232	SUB	L(304A
	07223	0	60100	0	07230	STO	ENDES
	07224	0	46000	0	07231	LDA	L(302A
	07225	0	70000	0	07230	CPY	ENDES
	07226	0	70000	0	07230	CPY	ENDES
	07227	0	02000	0	07616	TRA	NORMRT
A	07230	0	00000	0	00000	ENDES	HTR
	07231	0	00000	0	00456	L(302A	HTR 302
	07232	0	00000	0	00460	L(304A	HTR 304
					77777	TOP	EQU 32767
					00304	TAUDRM	EQU 196
					00303	ADRM	EQU 195
					00302	BDRM	EQU 194
					00222	TAPE2	EQU 146
					00223	TAPE3	EQU 147
					00144	LIGHT	EQU 100
					07034	REMOVE	SYN MAKIRV
					06377	IRV	SYN DOTAGZ
					00004	ONETCS	EQU 4
					00004	DIAG	EQU 4
A					00000		END

WRITE  
CHECK SUM.

C.S. STORAGE  
WRITE NR OF WDS IN TRASTO ON DRUM.  
ORIGIN PLUS NR OF WDS IN TRASTO  
LESS ORIGIN OF TRASTO

NORM RET MONITOR. GO TO SPACE TAPE 1

IF FORVAL EMPTY, LIGHT ON.

F2311220  
F2311230  
F2311240  
F2311250  
F2311260  
F2311270  
F2311280  
F2311290  
F2311300  
F2311310  
F2311320  
F2311335  
F2311340  
F2311350  
F2311360  
F2311365  
F2311370  
F2311380  
F2311390  
F2311400  
F2311410  
F2311420  
F2311430  
F2311440  
F2311445  
F2311446  
F2311450

1  
1

REM BLOCK FOUR OF SECTION TWO.

BLOCK FOUR OF SECTION TWO.

MASTER RECORD CARD = FN045

BLOCK 4

THIS PART COMPILES THE SUBROUTINES WHICH COMPUTE  
INDEX LOAD VALUES FOR PURE RELCONS.

THE LOAD VALUE FOR SUBSCRIPTS (C1I,C2J,C3K) IS  
(C1I-1)+(C2D1J-D1)+(C3D1D2K-D1D2)+1

TABLE IRV, PRODUCED BY BLOCK 3, GIVES A LIST OF THE  
SUBROUTINES REQUIRED.

	00030		ORG	24
	00030	CIB	BSS	100
	00174	WRKSC	BSS	8
	00204	BOB	BSS	152
	00434	OR000	BSS	28
	00450		ORG	296
M	00450	+010000000001	OR012	OCT 010000000001
M	00451	+060000000003	OR013	OCT 060000000003
	00456		ORG	302
M	00456	+010000000002	OR018	OCT 010000000002
	00466		ORG	310
M	00466	+010000000003	OR026	OCT 010000000003
	00467	0 00000 0 00000	HTR	0
	00470	0 50000 0 01430	START1	CLA L(1)
	00471	-0 76000 0 00143		MSE 99
	00472	0 02000 0 00474		TRA START
	00473	0 60100 0 01415		STO SENSE1
	00474	0 07400 4 00752	START	TSX RDRM,4
	00475	0 02000 0 00542		TRA FINISH+9
	00476	-0 53400 1 01007		LXD 1CNT,1
	00477	0 07400 4 00710		TSX INITFX,4
	00500	-0 53400 2 01427		LXD L(0),2
	00501	0 50000 2 00204	REPETE	CLA BOB,2
	00502	0 62100 0 01375		STA NAME1
	00503	0 77100 0 00022		ARS 18
	00504	0 62100 0 01376		STA TAG1
	00505	-0 63400 2 01414	ENTRY	SXD BX,2
	00506	-0 63400 1 01413		SXD AX,1
	00507	0 07400 4 01143		TSX SUBCOM,4
	00510	0 07400 4 00562		TSX COMPIL,4
	00511	-0 53400 2 01414		LXD BX,2
	00512	-0 53400 1 01413		LXD AX,1
	00513	1 77777 2 00514		TXI TEST,2,-1
	00514	-2 00001 1 00531	TEST	TNX FINISH,1,1
	00515	0 50000 2 00204		CLA BOB,2
	00516	0 07400 4 00735		TSX LINKTR,4
	00517	0 02000 0 00501		TRA REPETE
	00520	0 62100 0 01377		STA TAG2
	00521	0 40200 0 01376		SUB TAG1
	00522	0 10000 0 00527		TZE EQUAL
	00523	0 07400 4 00735		TSX LINKTR,4
	00524	0 50000 0 01377		CLA TAG2
	00525	0 60100 0 01376		STO TAG1
	00526	0 02000 0 00505		TRA ENTRY

SAVE STATUS OF SENSE-LIGHT3  
SO THAT IT CAN BE USED  
IN THIS BLOCK.

READ TABLE IRV (BOB ALSO)  
RETURN HERE IF NO ENTRIES.  
LOAD IRA WITH NO. OF IRV ENTRIES  
FORM END TEST FOR FIXCON SEARCH  
BEGIN WITH FIRST TABLE BOB ENTRY.  
SELECT TABLE IRV ENTRY.  
PUT SUBCOM NAME IN NAME 1.  
PUT TAU REFERENCE  
IN TAG1.

READ TAU ENTRY FROM DRUM.  
COMPILE SUBROUTINE FRO COMPUTING  
LOAD VALUE.

STEP DOWN COUNT THROUGH TABLE IRV.  
END OF TABLE IRV.  
REDUNDANT.  
COMPILE SUBROUTINE RETURN.

THE INSTRUCTIONS FROM HERE  
THROUGH  
TRA ENTRY  
ARE  
REDUNDANT.

F2400000  
F2400005  
F2400010  
F2400020  
F2400030  
F2400040  
F2400050  
F2400060  
F2400070  
F2400080  
F2400090  
F2400100  
F2400110  
F2400120  
F2400130  
F2400140  
F2400150  
F2400160  
F2400170  
F2400180  
F2400190  
F2400200  
F2400210  
F2400220  
F2400230  
F2400240  
F2400250  
F2400260  
F2400270  
F2400280  
F2400290  
F2400300  
F2400310  
F2400320  
F2400330  
F2400340  
F2400350  
F2400360  
F2400370  
F2400380  
F2400390  
F2400400  
F2400410  
F2400420  
F2400430  
F2400440  
F2400450  
F2400460  
F2400470  
F2400480  
F2400490  
F2400500

00527	0	07400	4	00674	EQUAL	TSX	STOTP,4
00530	0	02000	0	00513		TRA	TEST-1
00531	0	07400	4	00735	FINISH	TSX	LINKTR,4
00532	0	50000	0	01071		CLA	FC08+1
00533	0	76600	0	00302		WRS	194
00534	-0	32000	0	01424		ANA	DECMCK
00535	0	40000	0	01421		ADD	L1DEC
00536	0	77100	0	00021		ARS	17
00537	0	60100	0	01401		STO	AD1
00540	0	70000	0	01401		CPY	AD1
00541	0	70000	0	01401		CPY	AD1
00542	0	07400	4	01021		TSX	CITSP,4
00543	0	77000	0	00222		WEF	146
00544	0	76600	0	00222		WRS	146
00545	0	70000	0	01400		CPY	RECCNT
00546	0	70000	0	01400		CPY	RECCNT
00547	0	77000	0	00222		WEF	146
00550	0	53400	1	01400		LXA	RECCNT,1
00551	1	00003	1	00552		TXI	BST,1,3
00552	0	76400	0	00222	BST	BST	146
00553	2	00001	1	00552		TIX	BST,1,1
00554	0	76000	0	00140		PSE	96
00555	0	50000	0	01415		CLA	SENSE1
00556	0	10000	0	00560		TZE	END
00557	0	76000	0	00143		PSE	99
00560	0	76200	0	00221	END	RDS	145
00561	0	02000	0	00004		TRA	4
00562	-0	63400	1	01402	COMPIL	SXD	1XBOX,1
00563	-0	63400	2	01403		SXD	2XBOX,2
00564	-0	63400	4	01012		SXD	LINK1,4
00565	0	76000	0	00140		PSE	96
00566	0	07400	4	01240		TSX	COSE,4
00567	0	50000	0	01426		CLA	L(CLA)
00570	0	60100	0	01051		STO	CIL01
00571	0	50000	0	00451		CLA	OR000+13
00572	-0	32000	0	01422		ANA	6ONES
00573	0	60100	0	01052		STO	CIL02
00574	0	50000	0	01432		CLA	L(3)
00575	0	76700	0	00022		ALS	18
00576	0	60100	0	01053		STO	CIL03
00577	0	50000	0	01375		CLA	NAME1
00600	-0	50100	0	01420		ORA	BCD10
00601	0	60100	0	01050	STOLOC	STO	CIL00
00602	0	07400	4	01015		TSX	CIT,4
00603	0	50000	0	01425		CLA	L(STO)
00604	0	60100	0	01051		STO	CIL01
00605	0	50000	0	00466		CLA	OR000+26
00606	0	73400	1	00000		PAX	0,1
00607	-0	32000	0	01422		ANA	6ONES
00610	-0	63400	1	01053		SXD	CIL03,1
00611	0	60100	0	01052		STO	CIL02
00612	-0	75400	0	00000		PXD	0
00613	0	60100	0	01050		STO	CIL00
00614	0	07400	4	01015		TSX	CIT,4

FORM LAST SUBROUTINE RETURN.  
FIXCON WORD COUNT

ADJUST FIXCON WRDCT

WRITE FIXCON WORDCT AND  
ITS CHECKSUM ON DRUM, IN  
ITS ORIGINAL POSITION, AT THE  
BEGINNING.

WRITE CIT BUFFER ON TAPE  
WRITE E.O.F. ONCIT TAPE

WRITE CIT RECORDCOUNT AND  
CHECKSUM ON CIT TAPE  
WRITE E.O.F. ON CIT TAPE.  
BACKSPACE CIT TAPE  
UNTIL 1ST CIT RECORD  
THAT THIS BLOCK COMPILED.

TURN OFF ALL SENSE LIGHTS.  
RESET LIGHT 3 TO THE STATUS  
IT HELD BEFORE THE  
COMMENCEMENT OF THIS BLOCK.  
SKIP OVER DIAGNOSTIC RECORD ON SYSTEM TAPE

SAVE LINKAGE  
TURN ALL SENSE LIGHTS OFF  
OBTAIN NAME OF IOEFF. IN FIXCON.

THIS ROUTINE COMPILES  
THE INSTRUCTION

CLA 6)+3,  
WITH ZERO TAG,

TOGETHER WITH A SYMBOLIC  
LOCATION OF

10)+NAME1  
ENTER INSTR. IN CIT

THIS ROUTINE COMPILES THE  
INSTRUCTION.

STO 1)+3  
THESE COMPILED INSTR. PLACE  
1 IN ERASABLE STORAGE

ENTER INSTR. IN CIT

F2400510  
F2400520  
F2400530  
F2400540  
F2400550  
F2400560  
F2400570  
F2400580  
F2400590  
F2400600  
F2400610  
F2400620  
F2400630  
F2400640  
F2400650  
F2400660  
F2400670  
F2400680  
F2400690  
F2400700  
F2400710  
F2400720  
F2400730  
F2400740  
F2400750  
  
F2400770  
F2400780  
F2400790  
F2400800  
F2400810  
F2400820  
F2400830  
F2400840  
F2400850  
F2400860  
F2400870  
F2400880  
F2400890  
F2400900  
F2400910  
F2400920  
F2400930  
F2400940  
F2400950  
F2400960  
F2400970  
F2400980  
F2400990  
F2401000  
F2401010  
F2401020  
F2401030

00615	0	50000	0	00175	CLA	WRKSC+1
00616	0	10000	0	00630	TZE	S2
00617	0	60100	0	00435	STO	OR000+1
00620	0	53400	1	01433	LXA	L(4),1
00621	-0	76000	0	00141	MSE	97
00622	0	02000	0	00624	TRA	COMP20
00623	1	00002	1	00626	TXI	COMP30,1,2
00624	0	50000	0	01436	COMP20	CLA KLX02
00625	0	02000	0	00627	TRA	COMP30+1
00626	0	50000	0	01437	COMP30	CLA KLX021
00627	0	07400	4	01257	TSX	LXC,4
00630	0	50000	0	00177	S2	CLA WRKSC+3
00631	0	10000	0	00645	TZE	S3
00632	0	60100	0	00440	STO	OR000+4
00633	0	50000	0	00202	CLA	WRKSC+6
00634	0	07400	4	01054	TSX	FIXCON,4
00635	0	60100	0	00443	STO	OR000+7
00636	0	53400	1	01435	LXA	L(6),1
00637	-0	76000	0	00142	MSE	98
00640	0	02000	0	00643	TRA	COMP40
00641	0	50000	0	01440	CLA	KLX03
00642	1	00002	1	00644	TXI	COMP40+1,1,2
00643	0	50000	0	01441	COMP40	CLA KLX031
00644	0	07400	4	01257	TSX	LXC,4
00645	0	50000	0	00201	S3	CLA WRKSC+5
00646	0	10000	0	00664	TZE	COMP55
00647	0	60100	0	00461	STO	OR000+21
00650	0	56000	0	00202	LDQ	WRKSC+6
00651	0	20000	0	00203	MPY	WRKSC+7
00652	0	76700	0	00021	ALS	17
00653	0	07400	4	01054	TSX	FIXCON,4
00654	0	60100	0	00464	STO	OR000+24
00655	0	53400	1	01435	LXA	L(6),1
00656	-0	76000	0	00143	MSE	99
00657	0	02000	0	00662	TRA	COMP50
00660	0	50000	0	01442	CLA	KLX05
00661	1	00002	1	00663	TXI	COMP50+1,1,2
00662	0	50000	0	01443	COMP50	CLA KLX051
00663	0	07400	4	01257	TSX	LXC,4
00664	-0	53400	4	01045	COMP55	LXD BBOX,4
00665	1	00004	4	00666	TXI	COMP55+2,4,4
00666	-0	63400	4	01045	SXD	BBOX,4
00667	0	07400	4	00674	TSX	STOTP,4
00670	-0	53400	1	01402	LXD	1XBOX,1
00671	-0	53400	2	01402	LXD	1XBOX,2
00672	-0	53400	4	01012	LXD	LINK1,4
00673	0	02000	4	00001	TRA	1,4
00674	-0	63400	4	01404	STOTP	SXD LINK2,4
00675	0	50000	0	01427	CLA	L(0)
00676	0	60100	0	01050	STO	CIL00
00677	0	60100	0	01053	STO	CIL03
00700	0	50000	0	01425	CLA	L(STO)
00701	0	60100	0	01051	STO	CIL01
00702	0	50000	0	01375	CLA	NAME1

TEST 1ST SUBSCRIPT SYMBOL  
 NO SYMBOL PRESENT  
 SAVE S1 FOR LXC ROUTINE  
 INDEX FOR NO. OF COMPILED INSTR.  
 DOES 1ST COEFF EXCEED 1  
 NO  
 YES. 6 INSTR. TO BE COMPILED  
 NO. COMPILE INSTR TO COMPUTE  
 S1-1+(1 ALREADY IN ERASABLE)  
 YES. COMPILE C1A1-1  
 +(1 AREADY IN ERASABLE)

TRA IF NO 2ND SUBSC. SYMBOL  
 SAVE S2 FOR LXC ROUTINE.  
 OBTAIN SYMBOLIC ADDRESS  
 OF D1 IN FIXCON TABLE  
 AND STORE FOR LXC ROUTINE.  
 6 INSTR. TO BE COMPILED  
 IS COEFF. C2 GREATER THAN 1.  
 NO. COMPILE D1\*S2-D1+  
 YES. 8 INSTR. COMPILED TO  
 COMPUTE D1\*S2\*C3-D1+

+ THAT ALREADY COMPUTED.  
 TEST FOR 3RD SUBSCRIPT  
 SYMBOL.  
 STORE FOR LXC ROUTINE.  
 COMPUTE D1\*D2,  
 AND OBTAIN  
 NAME FOR THIS CONSTANT FROM  
 FIXCON, AND STORE FOR  
 LXC ROUTINE.  
 6 INSTR. TO BE COMPILED  
 IS 3RD COEFF GREATER THAN 1.  
 NO. COMPILE D1D2\*S3-D1D2+  
 YES, COMPILE D1D2\*C3S3-D1D2+

+ THAT ALREADY COMPUTED.  
 STEP UP CIT BUFFER COUNT  
 COMPILE INSTRUCTION TO STORE  
 LOADING VALUE FOR SUBSCRIPT COMB.

RETURN  
 ROUTINE COMPILES THE INSTR.  
 TO STORE THE RESULTS OF  
 THE SUBROUTINE COMPILATION IN  
 THE TAG NAME.  
 THIS INSTRUCTION IS

STO 12)+ NAME1

F2401040  
 F2401050  
 F2401060  
 F2401070  
 F2401080  
 F2401090  
 F2401100  
 F2401110  
 F2401120  
 F2401130  
 F2401140  
 F2401150  
 F2401160  
 F2401170  
 F2401180  
 F2401190  
 F2401200  
 F2401210  
 F2401220  
 F2401230  
 F2401240  
 F2401250  
 F2401260  
 F2401270  
 F2401280  
 F2401290  
 F2401300  
 F2401310  
 F2401320  
 F2401330  
 F2401340  
 F2401350  
 F2401360  
 F2401370  
 F2401380  
 F2401390  
 F2401400  
 F2401410  
 F2401420  
 F2401430  
 F2401440  
 F2401450  
 F2401460  
 F2401470  
 F2401480  
 F2401490  
 F2401500  
 F2401510  
 F2401520  
 F2401530  
 F2401540  
 F2401550  
 F2401560  
 F2401570

00703	-0	50100	0	01417	ORA	BCD14			F2401580
00704	0	60100	0	01052	STO	CIL02			F2401590
00705	0	07400	4	01015	TSX	CIT,4	ENTER IN CIT TABLE		F2401600
00706	-0	53400	4	01404	LXD	LINK2,4			F2401610
00707	0	02000	4	00001	TRA	1,4	RETURN		F2401620
						ROUTINE FORMS END	TEST FOR FIXCON SEARCH ROUTINE		F2401630
00710	0	53400	2	01434	INITFX	LXA L(5),2	LOAD READING ERROR COUNTER.		F2401640
00711	0	76200	0	00302	C1	RDS 194			F2401650
00712	0	70000	0	01007		CPY 1CNT	READ FIXCON WD.CT		F2401660
00713	0	70000	0	01010		CPY 2CNT	AND ITS CHECKSUM		F2401670
00714	0	50000	0	01007		CLA 1CNT			F2401680
00715	0	40200	0	01010		SUB 2CNT	TEST FOR READING ERROR.		F2401690
00716	-0	10000	0	00733		TNZ C6	ERROR.		F2401700
00717	0	50000	0	01007		CLA 1CNT	IS FIXCON EMPTY.		F2401710
00720	0	10000	0	00725		TZE C4	YES		F2401720
00721	0	40200	0	01431		SUB L(2)			F2401730
00722	0	76700	0	00021		ALS 17	STORE END TEST IN		F2401740
00723	0	62200	0	01071	C2	STD FC08+1	FIXCON SEARCH ROUTINE		F2401750
00724	0	02000	4	00001		TRA 1,4	RETURN TO MAIN ROUTINE.		F2401760
00725	0	76200	0	00302	C4	RDS 194	FIXCON IS EMPTY.		F2401770
00726	0	70000	0	01427		CPY L(0)	SET FIRST FOUR LOCATIONS		F2401780
00727	0	70000	0	01427		CPY L(0)	TO		F2401790
00730	0	70000	0	01427		CPY L(0)	ZERO.		F2401800
00731	0	70000	0	01427		CPY L(0)			F2401810
00732	0	02000	0	00723		TRA C2	STORE ZERO AS END TEST		F2401820
00733	2	00001	2	00711	C6	TIX C1,2,1	ERROR. TRY TO READ 3 TIMES.		F2401830
00734	0	07400	4	00004		TSX DIAG,4	DRUM 2 READING ERROR FIVE TIMES.		F2401840
00735	0	50000	0	01427	LINKTR	CLA L(0)			F2401850
00736	0	60100	0	01050		STO CIL00	THIS ROUTINE COMPILES		F2401860
00737	0	60100	0	01052		STO CIL02	INSTRUCTION FOR RETURN		F2401870
00740	0	50000	0	00750		CLA L(TRA)	TO THE FORTRAN MASTER		F2401880
00741	0	60100	0	01051		STO CIL01	ROUTINE.		F2401890
00742	0	50000	0	00751		CLA RELTG	TRA1,4		F2401900
00743	0	60100	0	01053		STO CIL03			F2401910
00744	-0	63400	4	01012		SXD LINK1,4			F2401920
00745	0	07400	4	01015		TSX CIT,4	FENTER IN CIT TABLE.		F2401930
00746	-0	53400	4	01012		LXD LINK1,4			F2401940
00747	0	02000	4	00001		TRA 1,4	RETURN		F2401950
00750	635121000000				L(TRA)	BCD 1TRA000			F2401960
00751	+000001000004				RELTG	OCT 000001000004			F2401970
						ROUTINE READS AND	CHECKS TABLE IRV (ALSO CALLED BOB)		F2401980
00752	0	53400	1	01434	RDRM	LXA L(5),1	LOAD ERROR COUNTER.		F2401990
00753	-0	63400	4	01012		SXD LINK1,4	SAVE ENTRY PT.		F2402000
00754	0	76200	0	00303	RDS	RDS 195			F2402010
00755	0	53400	2	01013		LXA L(152),2			F2402020
00756	0	46000	0	01014		LDA L1304	DRUM ADDRESS OF TABLE IS 1304		F2402030
00757	0	70000	0	01007		CPY 1CNT	READ WD. CT. OF TABLE.		F2402040
00760	0	70000	0	01010		CPY 2CNT	READ WD. CT. CHECKSUM.		F2402050
00761	0	70000	2	00434	CPY	CPY BOB+152,2	READ 150 TABLE ENTRIES.		F2402060
00762	2	00001	2	00761		TIX CPY,2,1			F2402070
00763	0	50000	0	01007		CLA 1CNT	DOES WD. CT AGREE		F2402080
00764	0	40200	0	01010		SUB 2CNT	WITH ITS CHECKSUM.		F2402090
00765	-0	10000	0	01005		TNZ EROR	NO. ERROR.		F2402100
00766	-0	53400	2	01007		LXD 1CNT,2	YES.		F2402110



	00767	3	00000	2	00772	TXH	PROCED,2,0	IS TABLE EMPTY.	F2402120
	00770	-0	53400	4	01012	LXD	LINK1,4	YES. RETURN TO	F2402130
	00771	0	02000	4	00001	TRA	1,4	MAIN ROUTINE.	F2402140
T	00772	-0	75400	0	00000	PROCED	PXD 0	TABLE IRV IS NOT EMPTY.	F2402150
	00773	-0	73400	4	00000	PDX	0,4	INITIALISE IRC TO ZERO.	F2402160
	00774	0	36100	4	00204	ACCSUM	ACL BOB,4	FORM LOGICAL CHECKSUM OF	F2402170
	00775	1	77777	4	00776	TXI	TIX,4,-1	ENTRIES	F2402180
	00776	2	00001	2	00774	TIX	TIX ACCSUM,2,1		F2402190
	00777	0	60200	0	01011	SLW	LOGWD		F2402200
	01000	0	50000	0	01011	CLA	LOGWD	COMPUTED CHECKSUM.	F2402210
	01001	0	40200	4	00204	SUB	BOB,4	DRUM CHECKSUM FOLLOWS LAST ENTRY.	F2402220
	01002	-0	10000	0	01005	TNZ	EROR	NOT EQUAL	F2402230
	01003	-0	53400	4	01012	LXD	LINK1,4	DRUM READ CORRECTLY.	F2402240
	01004	0	02000	4	00002	TRA	2,4	RETURN	F2402250
	01005	2	00001	1	00754	EROR	TIX RDS,1,1	TRY TO READ THREE MORE TIMES.	F2402260
	01006	0	07400	4	00004	TSX	DIAG,4	DRUM 3 READING ERROR FIVE TIMES.	F2402270
A	01007	0	00000	0	00000	1CNT	HTR		F2402280
A	01010	0	00000	0	00000	2CNT	HTR		F2402290
A	01011	0	00000	0	00000	LOGWD	HTR		F2402300
A	01012	0	00000	0	00000	LINK1	HTR		F2402310
	01013	0	00000	0	00230	L(152)	HTR 152	LENGTH OF TABLE IRV, WD. CT., CHECKSUMS	F2402320
	01014	0	00000	0	02430	L1304	HTR 1304	ORG OF WD. CT OF TABLE IRV	F2402330
								ROUTINE WRITES CIT BUFFER ON TAPE ,IF FULL. THEN ENTERS	F2402340
								NEW CIT INTO BUFFER.	F2402350
	01015	-0	63400	1	01046	CIT	SXD E2C,1		F2402360
	01016	-0	63400	2	01047		SXD E3C,2		F2402370
	01017	-0	53400	2	01045		LXD BBOX,2	COMPLEMENT OF CURRENT BUFFER CT.	F2402380
	01020	3	77634	2	01034		TXH CIT04,2,-100	BUFFER NEITHER FULL NOR ZERO	F2402390
	01021	-0	53400	2	01045	CITSP	LXD BBOX,2		F2402400
	01022	-3	00000	2	01034		TXL CIT04,2,0	TRA IF BUFFER CT ZERO	F2402410
	01023	0	50000	0	01400		CLA RECCNT	BUFFER IS ALREADY FULL.	F2402420
	01024	0	40000	0	01430		ADD L(1)	UPDATE CIT RECORD COUNT.	F2402430
	01025	0	60100	0	01400		STO RECCNT		F2402440
	01026	0	76600	0	00222		WRS 146		F2402450
	01027	0	53400	1	01427		LXA L(0),1	WRITE CIT BUFFER ON TAPE.	F2402460
	01030	0	70000	1	00030	CIT01	CPY CIB,1		F2402470
	01031	1	77777	1	01032		TXI CIT02,1,-1		F2402480
	01032	1	00001	2	01033	CIT02	TXI CIT03,2,1	STEP BUFFER COUNT BACK TO ZERO	F2402490
	01033	3	00001	2	01030	CIT03	TXH CIT01,2,1	TEST FOR BUFFER END	F2402500
	01034	0	53400	1	01433	CIT04	LXA L(4),1		F2402510
	01035	0	50000	1	01054	CIT05	CLA CIL00+4,1	STORE 4WD CIT IN BUFFER.	F2402520
	01036	0	60100	2	00030		STO CIB,2		F2402530
	01037	1	77777	2	01040		TXI CIT07,2,-1	UPDATE CIT BUFFER COUNT	F2402540
	01040	2	00001	1	01035	CIT07	TIX CIT05,1,1		F2402550
	01041	-0	63400	2	01045		SXD BBOX,2	SAVE CIT BUFFER COUNT	F2402560
	01042	-0	53400	1	01046		LXD E2C,1		F2402570
	01043	-0	53400	2	01047		LXD E3C,2	RELOAD INDEX REGS.	F2402580
	01044	0	02000	4	00001		TRA 1,4	RETURN	F2402590
	01045	0	00000	0	00000	BBOX	HTR 0	CIT BUFFER CT. INITIALLY ZERO	F2402600
A	01046	0	00000	0	00000	E2C	HTR		F2402610
A	01047	0	00000	0	00000	E3C	HTR		F2402620
					01050	CIL00	BSS 1	SYMBOLIC LOCN OF CIT	F2402630
					01051	CIL01	BSS 1	OP.DAND DEC. OF CIT.	F2402640
					01052	CIL02	BSS 1	SYMBOLIC ADDRESS OF CIT	F2402650

01053 CIL03 BSS 1

REL. ADDRESS AND TAG.  
 REQUIRED FIXCON IS IN ACC. WHEN THIS ROUTINE IS  
 BEGUN. THE FIXCON TABLE IS SEARCHED AND IF FIXCON IS  
 NOT ALREADY THERE, IT IS ENTERED IN THE TABLE.  
 (SEARCH IS MADE IN TWO PASSES, ONE FOR EVEN ENTRIES, ONE  
 FOR ODD, FOR TIMING PURPOSES.)EXIT WITH NAME OF ENTRY IN ACC.

F2402660

F2402670

F2402680

F2402690

F2402700

F2402710

F2402720

F2402730

F2402740

F2402750

F2402760

F2402770

F2402780

F2402790

F2402800

F2402810

F2402820

F2402830

F2402840

F2402850

F2402860

F2402870

F2402880

F2402890

F2402900

F2402910

F2402920

F2402930

F2402940

F2402950

F2402960

F2402970

F2402980

F2402990

F2403000

F2403010

F2403020

F2403030

F2403040

F2403050

F2403060

F2403070

F2403080

F2403090

F2403100

F2403110

F2403120

F2403130

F2403140

F2403150

F2403160

F2403170

F2403180

F2403190

01054 -0 63400 1 01107 FIXCON SXD FC29,1  
 01055 -0 63400 2 01077 SXD FC18,2  
 01056 -0 63400 4 01111 SXD FC34,4  
 01057 0 60100 0 01406 STO ERDRM1  
 01060 0 53400 4 01434 LXA L(5),4  
 01061 0 50000 0 01142 FC02 CLA ORIGIN  
 01062 0 60100 0 01401 STO AD1  
 01063 0 53400 1 01427 LXA L(10),1  
 01064 0 53400 2 01431 LXA L(2),2  
 01065 0 50000 0 01406 FC04 CLA ERDRM1  
 01066 0 76200 0 00302 RDS 194  
 01067 0 46000 0 01401 LDA AD1  
 01070 0 70000 0 01407 FC08 CPY CPYWD1  
 01071 3 00000 1 01102 TXH FC24+1,1  
 01072 0 70000 0 01410 CPY CPYWD2  
 01073 0 04000 0 01110 TLQ FC30  
 01074 0 70000 0 01405 CPY ERDRM  
 01075 0 34000 0 01410 CAS CPYWD2  
 01076 0 07400 4 00004 TSX DIAG,4  
 01077 -3 00000 0 01135 FC18 TXL FC60,0  
 01100 0 70000 0 01405 FC20 CPY ERDRM  
 01101 1 00002 1 01070 FC24 TXI FC08,1,2  
 01102 -2 00001 2 01112 TNX FC40,2,1  
 01103 0 50000 0 01401 CLA AD1  
 01104 0 40000 0 01431 ADD L(2)  
 01105 0 60100 0 01401 STO AD1  
 01106 0 53400 1 01430 FC28 LXA L(1),1  
 01107 -3 00000 0 01065 FC29 TXL FC04,0  
 01110 0 70000 0 01405 FC30 CPY ERDRM  
 01111 -3 00000 0 01100 FC34 TXL FC20,0  
 01112 0 60100 0 01407 FC40 STO CPYWD1  
 01113 -0 53400 1 01071 LXD FC08+1,1  
 01114 1 00001 1 01115 TXI FC42,1,1  
 01115 -0 63400 1 01071 FC42 SXD FC08+1,1  
 01116 -0 75400 1 00000 PXD 0,1  
 01117 0 77100 0 00021 ARS 17  
 01120 0 40000 0 01142 ADD ORIGIN  
 01121 0 60100 0 01401 STO AD1  
 01122 0 76600 0 00302 WRS 194  
 01123 0 46000 0 01401 LDA AD1  
 01124 0 70000 0 01407 CPY CPYWD1  
 01125 0 70000 0 01407 CPY CPYWD1  
 01126 -0 75400 1 00000 FC50 PXD 0,1  
 01127 0 77100 0 00022 ARS 18  
 01130 -0 50100 0 01416 ORA BCD2  
 01131 -0 53400 1 01107 LXD FC29,1  
 01132 -0 53400 2 01077 LXD FC18,2  
 01133 -0 53400 4 01111 LXD FC34,4

SAVE FIXCON.

INITIALIZE DRUM ERROR COUNTER.

INITIALISE AD1 TO SELECT 1ST ENTRY

AND ODD NUMBERED ENTRIES.

INITIALISE COUNT THROUGH TABLE

INITIALISES FOR TWO FIXCON PASSES

REQD. FIXCON

READ NEXT FIXCON ENTRY

DECR IS WD.CT OF FIXCON TABLE (INITFX)

READ CHECKSUM OF ENTRY

TRA IF ENTRY DOES NOT MATCH FIXCON.

FALSE COPY.

COMPARE WITH CHECKSUM.

OBTAINED BY TLQ.

SAVED IRB IN DECR. MATCH FOUND.

FALSE COPY. NO MATCH

INCREASE COUNT OF WORDS TESTED.

BOTH PASSES ARE COMPLETED.

ADJUST DRUM ADDRESS

TO TEST EVEN NUMBERED ENTRIES.

INITIALISE COUNT THROUGH TABLE

TRA TO MAKE 2ND PASS. SAVED IRA IN DEC.

FALSE COPY.

DECR. CONTAINS ROUTINE LINKAGE.

SEARCH COMPLETED. NO MATCH.

INCREASE FIXCON WD. COUNT AND

STORE AS NEW TEST.

FORM NEW ADDRESS

FOR

DRUM WRITING.

WRITE NEW FIXCON AND

ITS CHECKSUM ON DRUM.

FORM NAME OF CONSTANT

IN ACC. NAME CONSISTS OF

2 IN DEC.=2) FOR FIXCON TABLE,

AND ENTRY NO WITHIN TABLE.

IN ADDRESS.

RESTORE INDEX.

01134	0	02000	4	00001	TRA 1,4	RETURN.	F2403200
01135	0	50000	0	01407	FC60 CLA CPYWD1	MATCH FOUND. TEST DRUM READ.	F2403210
01136	0	40200	0	01410	SUB CPYWD2		F2403220
01137	0	10000	0	01126	TZE FC50	DRUM READ CORRECTLY.	F2403230
01140	2	00001	4	01061	TIIX FC02,4,1	ERROR. TRY 3 TIMES.	F2403240
01141	0	07400	4	00004	STOPFC TSX DIAG,4	DRUM 2 READING ERROR FIVE TIMES.	F2403250
01142	0	00000	0	00002	ORIGIN HTR 2	DRUM ORIGIN OF FIXCON TABLE.	F2403260
					THIS ROUTINE, GIVEN A TAU TAG, OBTAINS THE CORR.		F2403270
					SUBSCR. COMBINATION FROM THE APPROPRIATE TAU TABLE		F2403280
					AND STORES IN POSITION C1,S1,C2,S2,S3,S3,D1,D2.		F2403290
01143	-0	63400	4	01224	SUBCOM SXD SUB085,4	SAVE S.R. LINKAGE	F2403300
01144	0	53400	1	01434	LXA L(5),1	INITIALIZE DRUM ERROR COUNTER.	F2403310
01145	0	60100	0	01237	STO SUBTAG	STORE TAU TAG NAME.	F2403320
01146	0	76200	0	00304	SUB010 RDS 196	SELECT TAU DRUM	F2403330
01147	-0	53400	4	01234	LXD SUBORG+2,4	INITIALIZE SUBSCRIPT COMBINATION	F2403340
01150	-0	75400	0	00000	PXD 0	WORKING SPACE	F2403350
01151	0	60100	4	00204	SUB020 STO WRKSC+8,4	TO ZERO.	F2403360
01152	2	00001	4	01151	TIIX SUB020,4,1		F2403370
01153	0	50000	0	01237	CLA SUBTAG	THESE INSTRUCTIONS PLACE	F2403380
01154	0	76500	0	00011	LRS 9	TAU TABLE REQUIRED	F2403390
01155	0	73400	6	00000	PAX 0,6	(1,2 OR 3) IN IRB AND IRC.	F2403400
01156	-0	75400	0	00000	PXD 0		F2403410
01157	0	76300	0	00011	LLS 9	STORE ENTRY NUMBER	F2403420
01160	0	60100	0	01235	STO SUBES1	WITHIN APPROPRIATE TAU TABLE.	F2403430
01161	0	76700	0	00001	ALS 1		F2403440
01162	0	60100	0	01236	STO SUBES2	STORE TWICE TAU ENTRY NO.	F2403450
01163	0	50000	4	01235	CLA SUBORG+3,4	SELECT APPROPRIATE TAU ORIGIN.	F2403460
01164	0	40000	0	01235	ADD SUBES1	FORM DRUM ADDRESS, WHICH EQUALS	F2403470
01165	0	40000	0	01236	SUB030 ADD SUBES2	TAU ORIGIN + ENTRY N/*	F2403480
01166	2	00001	4	01165	TIIX SUB030,4,1	NUMBER OF WORDS PER ENTRY	F2403490
01167	0	62100	0	01235	STA SUBES1	(3 FOR TAU1,5 FOR TAU2,7 FOR TAU3)	F2403500
01170	0	46000	0	01235	LDA SUBES1	SELECT TAU ENTRY.	F2403510
01171	0	70000	0	00174	CPY WRKSC	DECR. C1, ADDR. C2	F2403520
01172	-3	00002	2	01174	TXL SUB040,2,2		F2403530
01173	0	70000	0	00200	CPY WRKSC+4	FOR TAU 3, ADDR. C3.	F2403540
01174	0	70000	0	00175	SUB040 CPY WRKSC+1	S1	F2403550
01175	-3	00001	2	01202	TXL SUB060,2,1		F2403560
01176	0	70000	0	00177	CPY WRKSC+3	FOR TAU2 AND3, S2.	F2403570
01177	-3	00002	2	01201	TXL SUB050,2,2		F2403580
01200	0	70000	0	00201	CPY WRKSC+5	FOR TAU3, SO, ALSO	F2403590
01201	0	70000	0	00202	SUB050 CPY WRKSC+6	ADDRESS D2,DECR.D1	F2403600
01202	0	70000	0	01235	SUB060 CPY SUBES1	CHECKSUM.	F2403610
01203	-0	53400	4	01232	LXD SUBORG,4		F2403620
01204	-0	50000	0	00174	CAL WRKSC	COMPUTE	F2403630
01205	0	36100	4	00203	SUB070 ACL WRKSC+7,4	CHECKSUM.	F2403640
01206	2	00001	4	01205	TIIX SUB070,4,1		F2403650
01207	0	60200	0	01236	SLW SUBES2		F2403660
01210	0	50000	0	01236	CLA SUBES2	TEST FOR	F2403670
01211	0	40200	0	01235	SUB SUBES1	READING ERROR.	F2403680
01212	0	10000	0	01214	TZE SUB075	TRA. IF CORRECT	F2403690
01213	2	00001	1	01146	TIIX SUB010,1,1	IF ERROR, TRY FOUR MORE TIMES.	F2403700
01214	-0	53400	4	01233	SUB075 LXD SUBORG+1,4		F2403720
01215	0	50000	4	00203	SUB080 CLA WRKSC+7,4	REARRANGE WORDS WRKSC	F2403730
01216	0	73400	2	00000	PAX 0,2	AND WRKSC+6, IN TURN, WHICH	F2403740

	01217	-0	32000	0	01424	ANA	DECM SK	CONTAIN C1 AND C2, DIAND D2.	F2403750
	01220	0	60100	4	00203	STO	WRKSC+7,4	NONBCD CHARACTERS	F2403760
	01221	-0	75400	2	00000	PXD	0,2	ARE STORED IN DECREMENT	F2403770
	01222	-2	00006	4	01225	TXN	SUB090,4,6	AND ORDER OF ITEMS IS NOW	F2403780
	01223	0	60100	0	00176	STO	WRKSC+2	C1,S1,C2,S2,C3,S3,D1,D2.	F2403790
D	01224	-3	00000	0	01215	SUB085	TXL SUB080,0		F2403800
	01225	0	60100	0	00203	SUB090	STO WRKSC+7		F2403810
	01226	-0	53400	4	01224	LXD	SUB085,4	RESTORE LINKAGE INDEX	F2403820
	01227	-3	00001	1	01231	TXL	SUB100+1,1,1	TRA IF READING ERROR.	F2403830
	01230	0	02000	4	00001	SUB100	TRA 1,4	RETURN	F2403840
	01231	0	07400	4	00004	TSX	DIAG,4	DRUM 4 READING ERROR 5 TIMES.	F2403850
	01232	+000006001356				SUBORG	OCT 000006001356	DECR. IS 6, ADDR. IS ORG TAU3	F2403860
	01233	+000007000454					OCT 000007000454	DECR. IS 7, ADDR IS ORG TAU2	F2403870
	01234	+000010000000					OCT 000010000000	DECR IS 8, ADDR IS ORG TAU1	F2403880
A	01235	0	00000	0	00000	SUBES1	HTR	ERASABLE ST. FOR DRUM ADDR.	F2403890
A	01236	0	00000	0	00000	SUBES2	HTR	ERASABLE ST. FO DRUM CHECK.	F2403900
A	01237	0	00000	0	00000	SUBTAG	HTR		F2403910
								COSE ROUTINE FORMS NAME OF EACH NONTRIVIAL COEFF. IN FIXCON	F2403920
								TABLE, AND SETS SENSE LIGHTS ACCORDINGLY.	F2403930
	01240	0	53400	1	01435	COSE	LXA L(6),1	INDEX TO SELECT SUBSCRIPTS IN TURN.	F2403940
	01241	0	53400	2	01432		LXA L(3),2	INITIALISE SENSE LT. SELECTION.	F2403950
	01242	-0	63400	4	01411		SXD LINKC,4		F2403960
	01243	0	50000	1	00202	COSE5	CLA WRKSC+6,1	SELECT A S.C. COEFF.	F2403970
	01244	0	10000	0	01253		TZE COSE08	TRA IF NO SUBSC. IN THIS DIMENSION.	F2403980
	01245	0	40200	0	01421		SUB LIDEC		F2403990
	01246	0	10000	0	01253		TZE COSE08	TRA IF COEFF. IS ONE.	F2404000
	01247	0	76000	2	00144		PSE 100,2	SET CORRESPONDING SENSE LIGHT.	F2404010
	01250	0	50000	1	00202		CLA WRKSC+6,1	ENTER COEFF IN FIXCON IF	F2404020
	01251	0	07400	4	01054		TSX FIXCON,4	NOT ALREADY THERE.	F2404030
	01252	0	60100	2	00450		STO QR000+12,2	STORE NAME OF FIXCON ENTRY.	F2404040
	01253	2	00002	1	01254	COSE08	TIX COSE10,1,2		F2404050
	01254	2	00001	2	01243	COSE10	TIX COSE5,2,1	REPEAT FOR ALL SUBSCRIPTS.	F2404060
	01255	-0	53400	4	01411		LXD LINKC,4		F2404070
	01256	0	02000	4	00001		TRA 1,4	RETURN	F2404080
								ROUTINE COMPILES SETS OF INSTRUCTIONS, GIVEN STARTING LOCN.	F2404090
								OF APPROPRIATE SKELETON IN ACC., AND NO. OF INSTR. IN IRA	F2404100
	01257	-0	63400	4	01313	LXC	SXD LXC19,4	SAVE LOCATION OF INSTR. SKELETON.	F2404110
	01260	0	60100	0	01412		STO ERLXC	NO. OF INST TO BE COMPILED.	F2404120
	01261	-0	75400	1	00000		PXD 0,1		F2404130
	01262	0	77100	0	00022		ARS 18	FORM ADDRESS WHICH GIVES	F2404140
	01263	0	40000	0	01412		ADD ERLXC	APPROPRIATE SKELETAL WORDS.	F2404150
	01264	0	62100	0	01267		STA LXC10	SET CIT SYMBOLIC LOCN. TO ZERO	F2404160
	01265	0	50000	0	01427	LXC08	CLA L(0)		F2404170
	01266	0	60100	0	01050		STO CIL00		F2404180
	01267	0	56000	1	00000	LXC10	LDQ 0,1	SELECT NEXT SKELETAL WORD.	F2404190
	01270	0	76300	0	00000		LLS 0	FOR COMPILATION. SET SIGN IN AC.	F2404200
	01271	-0	76300	0	00022		LGL 18	BCD. OPERATION IS IN DECREMENT.	F2404210
	01272	-0	60000	0	01051		STQ CIL01	STORE OPERATION	F2404220
	01273	-0	12000	0	01314		TMI LXC20	CIT IS SHIFT TYPE INSTRUCTION.	F2404230
	01274	0	62100	0	01275		STA LXC15	CIT IS SYMBOLIC ADDRESS TYPE.	F2404240
A	01275	0	50000	0	00000	LXC15	CLA	ADDR. IS LOCATION OF SYMBOLIC ADDRESS	F2404250
	01276	0	60100	0	01052		STO CIL02	OF CIT.	F2404260
	01277	0	50000	0	01427		CLA L(0)		F2404270
	01300	0	60100	0	01053		STO CIL03	SET CIT TAG TO ZERO.	F2404280

D

01301	-0	50000	0	01052	CAL	CIL02	TEST FOR A COT	F2404290
01302	-0	32000	0	01422	ANA	6ONES	SYMBOLIC ADDRESS OF THE TYPE	F2404300
01303	0	10000	0	01321	TZE	LXC30	1)+3 OR6)+2 ERASABLE	F2404310
01304	-0	32000	0	01423	ANA	BIT01	STORAGE	F2404320
01305	-0	10000	0	01321	TNZ	LXC30	NO	F2404330
01306	-0	50000	0	01052	CAL	CIL02	YES. SEPARATE ADDRESS LEAVING THE	F2404340
01307	0	76700	0	00022	ALS	18	CLASS OF SYMBOLS IN SYMBOLIC	F2404350
01310	0	62200	0	01053	STD	CIL03	ADDRESS POSN. ALONE, AND	F2404360
01311	-0	50000	0	01422	CAL	6ONES	PLACING ADDEND IN REL. ADDRESS	F2404370
01312	0	32000	0	01052	ANS	CIL02	POSITION.	F2404380
01313	-3	00000	0	01321	LXC19	TXL LXC30,0	UNCOND. TRANSFER LINKAGE INDECR.	F2404390
01314	0	76700	0	00022	LXC20	ALS 18	CIT IS SHIFT TYPE INSTRUCTION	F2404400
01315	-0	32000	0	01424	ANA	DECM5K	I.E. ABSOLUTE ADDRESS ONLY.	F2404410
01316	0	60100	0	01053	STO	CIL03	STORE ADDRESS IN CIT REL. ADDRESS.	F2404420
01317	0	50000	0	01427	CLA	L(0)	STORE ZERO AS	F2404430
01320	0	60100	0	01052	STO	CIL02	SYMBOLIC ADDRESS.	F2404440
01321	0	07400	4	01015	LXC30	TSX CIT,4	MAKE CIT ENTRY.	F2404450
01322	2	00001	1	01265	TIX	LXC08,1,1	RETURN FOR NEXT SKELETON INST.	F2404460
01323	-0	53400	4	01313	LXD	LXC19,4	SKELETON COMPLETED.	F2404470
01324	0	02000	4	00001	TRA	1,4	RETURN.	F2404480
01325	0	00451	2	34321	LX100	HTR 14545,2,OR000+13	CLA. THESE WORDS	F2404490
01326	0	00466	6	26346	HTR	11494,6,OR000+26	STO. CONSTITUTE THE	F2404500
01327	0	00435	2	34321	LX102	HTR 14545,2,OR000+1	CLA. CODING	F2404510
01330	0	00451	6	26422	HTR	11538,6,OR000+13	SUB. SKELETONS,	F2404520
01331	0	00466	2	12424	HTR	5396,2,OR000+26	ADD. AND ARE	F2404530
01332	0	00466	6	26346	HTR	11494,6,OR000+26	STO. CALLED UPON	F2404540
01333	0	00435	4	32450	LX105	HTR 13608,4,OR000+1	LDQ. BY THE LXC	F2404550
01334	0	00445	4	44770	HTR	18936,4,OR000+9	MPY. ACCORDING	F2404560
01335	-2	00021	2	14362	TNX	6386,2,17	ALS. TO THE	F2404570
01336	0	00451	6	26422	HTR	11538,6,OR000+13	SUB. DIFFERENT	F2404580
01337	0	00466	2	12424	HTR	5396,2,OR000+26	ADD. COMPUTATIONS	F2404590
01340	0	00466	6	26346	HTR	11494,6,OR000+26	STO. REQUIRED.	F2404600
01341	0	00440	4	32450	LX110	HTR 13608,4,OR000+4	LDQ.	F2404610
01342	0	00443	4	44770	HTR	18936,4,OR000+7	MPY. THE TAG AND	F2404620
01343	-2	00021	2	14362	TNX	6386,2,17	ALS. ADDRESS ARE	F2404630
01344	0	00443	6	26422	HTR	11538,6,OR000+7	SUB. THE BCD	F2404640
01345	0	00466	2	12424	HTR	5396,2,OR000+26	ADD. EQUIVALENTS OF	F2404650
01346	0	00466	6	26346	HTR	11494,6,OR000+26	STO. THE CIT	F2404660
01347	0	00440	4	32450	LX116	HTR 13608,4,OR000+4	LDQ. INSTRUCTIONS.	F2404670
01350	0	00446	4	44770	HTR	18936,4,OR000+10	MPY. THE SYMBOLIC	F2404680
01351	-2	00022	4	35162	TNX	14962,4,18	LRS. DECREMENTS ARE	F2404690
01352	0	00443	4	44770	HTR	18936,4,OR000+7	MPY. THE LOCATIONS	F2404700
01353	-2	00021	2	14362	TNX	6386,2,17	ALS. OF THE	F2404710
01354	0	00443	6	26422	HTR	11538,6,OR000+7	SUB. ADDRESSES IN	F2404720
01355	0	00466	2	12424	HTR	5396,2,OR000+26	ADD. THE CIT	F2404730
01356	0	00466	6	26346	HTR	11494,6,OR000+26	STO.	F2404740
01357	0	00461	4	32450	LX124	HTR 13608,4,OR000+21	LDQ. THE NEGATIVE	F2404750
01360	0	00464	4	44770	HTR	18936,4,OR000+24	MPY. PREFIX INDICATES	F2404760
01361	-2	00021	2	14362	TNX	6386,2,17	ALS. A PURELY	F2404770
01362	0	00464	6	26422	HTR	11538,6,OR000+24	SUB. ABSOLUTE ADDRESS	F2404780
01363	0	00466	2	12424	HTR	5396,2,OR000+26	ADD.	F2404790
01364	0	00466	6	26346	HTR	11494,6,OR000+26	STO.	F2404800
01365	0	00461	4	32450	LX130	HTR 13608,4,OR000+21	LDQ.	F2404810
01366	0	00447	4	44770	HTR	18936,4,OR000+11	MPY.	F2404820

	01367	-2	00022	4	35162		TNX	14962,4,18	LRS.
	01370	0	00464	4	44770		HTR	18936,4,OR000+24	MPY.
	01371	-2	00021	2	14362		TNX	6386,2,17	ALS.
	01372	0	00464	6	26422		HTR	11538,6,OR000+24	SUB.
	01373	0	00466	2	12424		HTR	5396,2,OR000+26	ADD.
	01374	0	00466	6	26346		HTR	11494,6,OR000+26	STO.
A	01375	0	00000	0	00000	NAME1	HTR		
A	01376	0	00000	0	00000	TAG1	HTR		
A	01377	0	00000	0	00000	TAG2	HTR		
A	01400	0	00000	0	00000	RECCNT	HTR		
A	01401	0	00000	0	00000	AD1	HTR		
A	01402	0	00000	0	00000	1XBOX	HTR		
A	01403	0	00000	0	00000	2XBOX	HTR		
A	01404	0	00000	0	00000	LINK2	HTR		
A	01405	0	00000	0	00000	ERDRM	HTR		
A	01406	0	00000	0	00000	ERDRM1	HTR		
A	01407	0	00000	0	00000	CPYWD1	HTR		
A	01410	0	00000	0	00000	CPYWD2	HTR		
A	01411	0	00000	0	00000	LINKC	HTR		
A	01412	0	00000	0	00000	ERLXC	HTR		
A	01413	0	00000	0	00000	AX	HTR		
A	01414	0	00000	0	00000	BX	HTR		
A	01415	0	00000	0	00000	SENSE1	HTR		
	01416	+020000000000				BCD2	OCT	020000000000	
	01417	+140000000000				BCD14	OCT	140000000000	
	01420	+120000000000				BCD10	OCT	120000000000	
	01421	+000001000000				L1DEC	OCT	000001000000	
	01422	-370000000000				6ONES	OCT	770000000000	
	01423	-200000000000				BIT01	OCT	600000000000	
	01424	+077777000000				DECMSK	OCT	077777000000	
	01425	626346000000				L(STO)	BCD	1ST0000	
	01426	234321000000				L(CLA)	BCD	1CLA000	
	01427	0	00000	0	00000	L(0)	HTR	0	
	01430	0	00000	0	00001	L(1)	HTR	1	
	01431	0	00000	0	00002	L(2)	HTR	2	
	01432	0	00000	0	00003	L(3)	HTR	3	
	01433	0	00000	0	00004	L(4)	HTR	4	
	01434	0	00000	0	00005	L(5)	HTR	5	
	01435	0	00000	0	00006	L(6)	HTR	6	
	01436	0	00000	0	01327	KLX02	HTR	LX102	
	01437	0	00000	0	01333	KLX021	HTR	LX105	
	01440	0	00000	0	01347	KLX03	HTR	LX116	
	01441	0	00000	0	01341	KLX031	HTR	LX110	
	01442	0	00000	0	01365	KLX05	HTR	LX130	
	01443	0	00000	0	01357	KLX051	HTR	LX124	
M					00450	OR012	SYN	OR000+12	
M					00451	OR013	SYN	OR000+13	
M					00456	OR018	SYN	OR000+18	
M					00466	OR026	SYN	OR000+26	
					00004	DIAG	EQU	4	
					00000		END		
A					00R012	00450,00450			
A					00R013	00451,00451			
A					00R018	00456,00456			

SKELETON KEYS  
FOR LXC ROUTINE.

F2404830  
F2404840  
F2404850  
F2404860  
F2404870  
F2404880  
F2404890  
F2404900  
F2404910  
F2404920  
F2404930  
F2404940  
F2404950  
F2404960  
F2404970  
F2404980  
F2404990  
F2405000  
F2405010  
F2405020  
F2405030  
F2405040  
F2405050  
F2405060  
F2405070  
F2405080  
F2405090  
F2405100  
F2405110  
F2405120  
F2405130  
F2405140  
F2405150  
F2405160  
F2405170  
F2405180  
F2405190  
F2405195  
F2405200  
F2405210  
F2405220  
F2405230  
F2405240  
F2405250  
F2405260  
F2405270  
F2405280  
F2405290  
F2405300  
F2405305  
F2405310

LCV

A

00R026 00466+00466

## REM BLOCK FIVE OF SECTION TWO.

## BLOCK FIVE OF SECTION TWO.

FORTRAN 2\*\*\*\*\*BLOCK 5 OF SECTION 2\*\*\*\*\*F2500000  
BLOCK 5 OF SECTION 2 USES INFORMATION GENERATED BY BLOCKS F2500030  
1,2, AND 3 TO COMPILE ALL DO LOOP INDEXING INSTRUCTIONS. F2500040  
DECREMENTS ARE COMPUTED, AND WHEN NECESSARY OPEN SUBROUTINES F2500050  
ARE COMPILED TO COMPUTE THESE DECREMENTS AT OBJECT PROGRAM F2500060  
TIME. AT THE END OF BLOCK 5 THESE INSTRUCTIONS ARE ON TAPE F2500070  
3 IN SEMI-INVERTED ORDER. BLOCK 6 INVERTS THE DOFILE INTO ITF2500080  
PROPER ORDER ONTO TAPE 4 F2500090  
F2500100  
F2500110  
F2500120  
F2500125  
F2500130

MASTER RECORD CARD = FN047

## BEGIN INITIALIZATION

THE INITIALIZATION RECORD IS THE FIRST RECORD OF BLOCK 5 READ F2500140  
IN BY MONITOR. IT POSITIONS THE INPUT TAPES 2 AND 4 AND F2500150  
REWINDS THE OUTPUT TAPE 3. IT READS THE NEXT RECORD (THE ALPHAF2500160  
STATE) INTO CORES THEN WRITES IT ON DRUM 2. THEN IT READS F2500170  
IN THE NEXT RECORD (COMMON + THE BETA STATE), AND WRITES THE BF2500180  
BETA STATE ON DRUM 1. IT READS THE ADTAG TABLE FROM DRUM 2 IF2500190  
FIXCON IS CHECKED AND INITIALIZED IF NECESSARY. IF THERE ARE F2500200  
ANY DOS CONTROL IS PASSED TO MAN. IF THERE ARE NO DOS THE NEF2500210  
NEXT RECORD, WHICH IS BLOCK 6, IS READ IN. F2500220

00030	0	53400	1	00131	AINIT	ORG 24			F2500230
00031	0	76400	0	00222		LXA L5,1	INITIALIZE ERROR COUNTER.		F2500240
00032	0	76400	0	00222		BST 146	POSITION TAPE 2		F2500250
00033	0	76200	0	00222	A1	BST 146	TO READ DOTAG		F2500260
00034	0	70000	0	00124		RDS 146			F2500270
00035	0	70000	0	00124		CPY CPYWD3	DO TAG REC COUNT		F2500280
00036	0	76600	0	00333		CPY CPYWD3	DO TAG REC COUNT		F2500290
00037	-0	76000	0	00012		WRS 219			F2500300
00040	0	02000	0	00056		RTT			F2500310
00041	-0	53400	1	00124		TRA A3I	ERROR		F2500320
00042	-3	00000	1	00044		LXD CPYWD3,1			F2500330
00043	1	00002	1	00044		TXL A2,1,0			F2500340
00044	0	76400	0	00222	A2	TXI A2,1,2			F2500350
00045	2	00001	1	00044		BST 146	BACKSPACE TO BEGINNING		F2500360
00046	0	77200	0	00223		TIX A2,1,1	OF DOTAG RECORDS		F2500370
00047	0	77200	0	00224		REW 147	REWIND OUTPUT TAPE		F2500380
00050	0	76200	0	00224	A3	REW 148	REWIND TAGTAG TAPE		F2500390
00051	0	70000	0	00124		RDS 148			F2500400
00052	0	02000	0	00050		CPY CPYWD3	TAGTAG RECORD COUNT		F2500410
00053	0	76200	0	00221		TRA A3			F2500420
00054	0	02000	0	00004		RDS 145	SKIP OVER DIAGNOSTIC RECORD ON SYSTEM TAPE		F2500430
						TRA 4	E.D.F. READ IN NEXT BLOCK OF INST.		F2500440
							THE ALPHA STATE IS NOW IN CORES. CONTROL PASSES TO C.		F2500450
00055	0	02000	0	00050		TRA A3	E.O.R.		F2500460
00056	-2	00001	1	00061	A31	TNX A4,1,1	READING		F2500470
00057	0	76400	0	00222		BST 146	ERROR		F2500480
00060	0	02000	0	00033		TRA A1	ROUTINE		F2500490
00061	0	07400	4	00004	A4	TSX DIAG,4	TAPE 2 HAS GOTTEN AN ERROR CHECK 5 TIMES.		F2500500
00062	0	53400	2	00146	C	LXA LO,2			F2500510
00063	0	07400	4	00132		TSX BINIT,4	WRITE BLOCK A ON DRUM		F2500520



00064	0	76200	0	00221	RDS 145	SKIP OVER DIAGNOSTIC RECORD ON SYSTEM TAPE	F2500530
00065	0	02000	0	00004	TRA 4	READ NEXT RECORD	F2500540
						COMMON AND BETA STATE ARE NOW IN CORES. CONTROL IS PASSED TO	F2500550
						THE FOLLOWING INSTRUCTION.	F2500560
00066	0	53400	2	00126	LXA L1,2		F2500570
00067	0	07400	4	00132	TSX BINIT,4	PLACE BLOCK B ON DRUM	F2500580
00070	0	07400	4	00150	TSX ADTGDM,4	READ ADTAG ENTRIES	F2500590
00071	0	53400	1	00131	LXA L5,1	INITIALIZE ERROR COUNTER.	F2500600
00072	0	76200	0	00302	RDS 194	SELECT FIXCON DRUM.	F2500610
00073	0	70000	0	00124	CPY CPYWD3	WORD COUNT OF FIXCON	F2500620
00074	0	70000	0	00125	CPY CPYWD4		F2500630
00075	0	50000	0	00124	CLA CPYWD3		F2500640
00076	0	40200	0	00125	SUB CPYWD4		F2500650
00077	-0	10000	0	00122	TNZ C6	ERROR IN DRUM READING	F2500660
00100	0	50000	0	00124	CLA CPYWD3		F2500670
00101	0	10000	0	00114	TZE C4	NO ENTRIES IN FIXCON	F2500680
00102	0	40200	0	00127	SUB L2		F2500690
00103	0	76700	0	00021	ALS 17		F2500700
00104	0	62200	0	04616	STD FC08+1	STORE WORD COUNT IN	F2500710
00105	0	50000	0	05126	CLA L(1)	DECREMENT OF FC08-1	F2500720
00106	0	60100	0	05205	STO SWITCH2	SET SWITCH 2 TO 1	F2500730
00107	-0	76000	0	00143	MSE 99		F2500740
00110	0	02000	0	03654	TRA MAN	IF NO DOTAGS,	F2500750
00111	0	76000	0	00143	PSE 99	TRA MONITOR	F2500760
00112	0	76200	0	00221	RDS 145	SKIP OVER DIAGNOSTIC RECORD ON SYSTEM TAPE	F2500770
00113	0	02000	0	00004	TRA 4	OTHERWISE TRA MAN.	F2500780
00114	0	76600	0	00302	WRS 194		F2500790
00115	0	70000	0	00146	CPY L0	NO ENTRIES, WRITE	F2500800
00116	0	70000	0	00146	CPY L0	ZEROS IN FIRST FOUR	F2500810
00117	0	70000	0	00146	CPY L0	LOCATIONS OF DRUM 3	F2500820
00120	0	70000	0	00146	CPY L0		F2500830
00121	0	02000	0	00104	TRA C2		F2500840
00122	2	00001	1	00072	TIX C1,1,1	DRUM 2 READING ERROR ROUTINE.	F2500850
00123	0	07400	4	00004	TSX DIAG,4	DRUM 2 READING ERROR 5 TIMES.	F2500860
00124	0	00000	0	00000	CPYWD3 HTR		F2500870
00125	0	00000	0	00000	CPYWD4 HTR		F2500880
00126	0	00000	0	00001	L1 HTR 1		F2500890
00127	0	00000	0	00002	L2 HTR 2		F2500900
00130	0	00000	0	00003	L3 HTR 3		F2500910
00131	0	00000	0	00005	L5 HTR 5		F2500920
						*****	F2500930
						BINIT WRITES A SELECTED STATE, ALPHA OR BETA, ON DRUM2 OR 1	F2500940
						RESPECTIVELY,	F2500950
00132	0	50000	0	00146	BINIT CLA L0		F2500960
00133	0	53400	1	00147	LXA L1000,1	FORM CHECK SUM FOR	F2500970
00134	0	36100	1	07226	B1 ACL RTXAC+1000,1	PROGRAM ON DRUM.	F2500980
00135	2	00001	1	00134	TIX B1,1,1		F2500990
00136	0	60200	0	00124	SLW CPYWD3		F2501000
00137	0	53400	1	00147	LXA L1000,1		F2501010
00140	0	76600	2	00302	WRS 194,2	WRITE 1000 WORDS OF	F2501020
00141	0	46000	0	00147	LDA L1000	PROGRAM ONTO DRUM	F2501030
00142	0	70000	0	00124	CPY CPYWD3		F2501040
00143	0	70000	1	07226	B2 CPY RTXAC+1000,1		F2501050
00144	2	00001	1	00143	TIX B2,1,1		F2501060



				00030 CIB	BSS	100		F2501550
				00174 DOTAG	BSS	450		F2501560
				01076 TGTG	BSS	672		F2501570
				02336 OMXTGA	BSS	200		F2501580
				02646 ADTG	BSS	404		F2501590
				03472 OADTGA	BSS	100		F2501600
				03636 WRKSC	BSS	8		F2501610
	03646	0	00000	0	00000		TAG1	F2501620
	03647	0	00000	0	00000		TAG2	F2501630
M	03650	0	00000	0	00000		TAG21	F2501640
M	03651	0	00000	0	00000		TAG22	F2501650
				03652	TAG3	BSS	1	F2501660
				03653	TAG4	BSS	1	F2501670
								F2501680
								F2501690
								F2501700
								F2501710
								F2501720
								F2501730
								F2501740
								F2501750
								F2501760
								F2501770
								F2501780
								F2501790
								F2501800
								F2501810
								F2501820
								F2501830
								F2501840
								F2501850
								F2501860
								F2501870
								F2501880
								F2501890
								F2501900
								F2501910
								F2501920
								F2501930
								F2501940
								F2501950
								F2501960
								F2501970
								F2501980
								F2501990
								F2502000
								F2502010
								F2502020
								F2502030
								F2502040
								F2502050
								F2502060
								F2502070
								F2502080

MAN CONSTITUTES THE MAIN LINEAR FLOW THROUGH BLOCK 5. A SUBROUTINE PICKS A DO BETA OR ALPHA, AND THEN CONTROL IS PASSED TO THE PROPER STATE, (BETA OR ALPHA), TO COMPILE ALL THE INDEXING INSTRUCTIONS FOR THAT PART OF THAT DO. CONTROL IS RETURNED TO MAN. THIS PROCESS IS REPEATED UNTIL ALL ALPHAS AND BETAS IN A NEST HAVE BEEN TREATED. THE WHOLE PROCEDURE IS REPEATED FOR EACH NEST AND THEN CONTROL IS PASSED TO BLOCK SIX.

\*\*\*\*\*

03654	0	07400	4	04012	MAN	TSX	TDOTG,4	READ ONE NEST OF DOTAG	F2501770
03655	0	02000	0	03740		TRA	MAN70	END OF PROBLEM	F2501780
03656	-0	63400	2	04142		SXD	DOGS60,2	INIT. DECREMENT OF TEST.	F2501790
03657	-0	63400	2	03664		SXD	MAN05,2		F2501800
03660	0	53400	2	05057		LXA	LMXDTG,2		F2501810
03661	-0	50000	0	05103		CAL	T1MSK	MASK FOR T1 WORD OF DOTAG	F2501820
03662	0	32000	2	01104	MAN03	ANS	DOTAGZ+6,2	T1 WORD MUST HAVE	F2501830
03663	1	77767	2	03664		TXI	MAN05,2,-9	SOME BITS REMOVED FOR	F2501840
03664	3	00000	2	03662	MAN05	TXH	MAN03,2	SXD LOCATION	F2501850
03665	0	07400	4	04027		TSX	TIG,4	READ NEST OF TAGTAGS	F2501860
03666	-0	63400	2	04165		SXD	FIND10,2	SAVE COUNT OF TAGTAGS IN NEST	F2501870
03667	0	50000	0	05133		CLA	L(0)	ZERO.	F2501880
03670	0	53400	2	05122		LXA	LMXTGA,2	INITIALIZE APPENDED TGTG	F2501890
03671	0	60100	2	02646	MAN06	STO	MXTGA,2	TO.	F2501900
03672	2	00001	2	03671		TIX	MAN06,2,1	ZERO.	F2501910
03673	0	53400	2	05124		LXA	LZEKMX,2	INITIALIZE APPENDED ADTAG	F2501920
03674	0	60100	2	03636	STO	STO	ADTGA,2	TO	F2501930
03675	2	00001	2	03674		TIX	STO,2,1	ZERO	F2501940
03676	0	50000	0	05133	MAN10	CLA	L(0)	INITIALIZE	F2501950
03677	0	60100	0	05173		STO	BBOX	INDICATORS	F2501960
03700	0	60100	0	05230		STO	DOIND		F2501970
03701	0	60100	0	05231		STO	DOIND1		F2501980
03702	0	60100	0	05233		STO	SWICH1		F2501990
03703	0	50000	0	05123		CLA	ALLONE	INITIALIZE	F2502000
03704	0	60100	0	05244		STO	VCTR	INSTRUCTION COUNTER	F2502010
03705	0	50000	0	05126	MAN20	CLA	L(1)		F2502020
03706	0	60100	0	05222		STO	LOCIND		F2502030
03707	0	07400	4	04055		TSX	DOGS,4	SELECT BOR A	F2502040
03710	0	02000	0	03731		TRA	MAN50	NEST COMPLETELY ANALYZED	F2502050
03711	0	50000	0	05233		CLA	SWICH1	IS APPROPRIATE	F2502060
03712	0	34000	0	05205		CAS	SWICH2	CODING IN CORES	F2502070
03713	0	02000	0	03715		TRA	MAN35	NO	F2502080

03714	0	02000	0	03720	TRA	MAN40
03715	0	07400	4	03763	MAN35	TSX ABDRM,4
03716	0	50000	0	05233		CLA SWICH1
03717	0	60100	0	05205		STO SWICH2
03720	-0	53400	2	05230	MAN40	LXD DOIND,2
03721	0	50000	2	01076		CLA DOTAGZ,2
03722	0	62200	0	05224		STD A
03723	0	73400	1	00000		PAX 0,1
03724	-0	63400	1	05225		SXD B,1
03725	-0	73400	1	00000	MAN45	PDX 0,1
03726	-0	75400	1	00000		PXD 0,1
M 03727	0	07400	4	05256		TSX RTXAC,4
03730	0	02000	0	03705		TRA MAN20
03731	0	07400	4	04352	MAN50	TSX CITSP,4
03732	0	76600	0	00223		WRS 147
03733	0	70000	0	05133		CPY L(0)
03734	0	70000	0	05133		CPY L(0)
03735	0	70000	0	05133		CPY L(0)
03736	0	70000	0	05133		CPY L(0)
03737	0	02000	0	03654		TRA MAN
03740	0	77000	0	00223	MAN70	WEF 147
03741	0	76600	0	00301		WRS 193
03742	0	46000	0	05065		LDA AD202
03743	0	70000	0	05063		CPY DRADS2
03744	0	70000	0	05063		CPY DRADS2
03745	0	76600	0	00301		WRS 193
03746	0	70000	0	05064		CPY DRADS3
03747	0	70000	0	05064		CPY DRADS3
03750	0	76600	0	00302		WRS 194
03751	0	50000	0	04616		CLA FC08+1
03752	-0	32000	0	05142		ANA DECMK
03753	0	40000	0	05061		ADD L1DEC
03754	0	77100	0	00021		ARS 17
03755	0	60100	0	05214		STO AD1
03756	0	70000	0	05214		CPY AD1
03757	0	70000	0	05214		CPY AD1
03760	0	76000	0	00140		PSE 96
03761	0	76200	0	00221		RDS 145
03762	0	02000	0	00004		TRA 4
*****						
03763	-0	63400	4	05223	ABDRM	SXD ERORBX,4
03764	0	53400	4	05233		LXA SWICH1,4
03765	0	53400	2	05132		LXA L(5),2
03766	0	76200	4	00302	PGPG4	RDS 194,4
03767	0	53400	1	05073		LXA BLKSZE,1
03770	0	46000	4	05073		LDA ABDRMA+1,4
03771	0	70000	0	05203		CPY CHEKSM
M 03772	0	70000	1	07226	PGPG8	CPY RTXAC+1000,1
03773	2	00001	1	03772		TIX PGPG8,1,1
03774	0	50000	0	05133		CLA L(0)
03775	0	53400	1	05073		LXA BLKSZE,1
M 03776	0	36100	1	07226	PGPG10	ACL RTXAC+1000,1

YES  
NO. READ STATE FROM DRUM

SAVE A

CURRENT DO

ACCUMULATOR, LEAVING BETA

BACK TO DOGS

WRITE CIT BUFFER ON TAPE

END OF RECORD INDIC

END OF FILE FOR DO FILE

SKIP OVER DIAGNOSTIC RECORD ON SYSTEM TAPE  
EXIT BLOCK 5.

ABDRM IS CALLED BY MAN TO WRITE THE PROPER DRUM STATEB ALPHA  
OR BETA INTO CORES WHEN NECESSARY.

STORE LINKAGE

INITIALIZE DRUM READING ERROR COUNTER.

= OF INST PLUS CHECK SUM

F2502090  
F2502100  
F2502110  
F2502120  
F2502130  
F2502140  
F2502150  
F2502160  
F2502170  
F2502180  
F2502190  
F2502200  
F2502210  
F2502220  
F2502230  
F2502240  
F2502250  
F2502260  
F2502270  
F2502280  
F2502290  
F2502300  
F2502310  
F2502320  
F2502330  
F2502340  
F2502350  
F2502360  
F2502370  
F2502380  
F2502390  
F2502400  
F2502410  
F2502420  
F2502430  
F2502440  
F2502450  
F2502460  
F2502470  
F2502480  
F2502490  
F2502500  
F2502510  
F2502520  
F2502530  
F2502540  
F2502550  
F2502560  
F2502570  
F2502580  
F2502590  
F2502600  
F2502610  
F2502620

LTGV

TD

03777	2	00001	1	03776	TIX	PGPG10,1,1		F2502630
04000	0	60200	0	05202	SLW	ERAB		F2502640
04001	0	50000	0	05203	CLA	CHEKSM		F2502650
04002	0	40200	0	05202	SUB	ERAB		F2502660
04003	0	10000	0	04010	TZE	PGPG14		F2502670
04004	2	00001	2	03766	TIX	PGPG4,2,1	READING ERROR. TRY AGAIN 4 TIMES.	F2502680
04005	-3	00000	4	04007	TXL	PGPG12,4,0	WHICH DRUM.	F2502690
04006	0	07400	4	00004	TSX	DIAG,4	DRUM 1 READ INCORRECTLY 5 TIMES.	F2502700
04007	0	07400	4	00004	PGPG12	TSX	DRUM 2 READ INCORRECTLY 5 TIMES.	F2502710
04010	-0	53400	4	05223	PGPG14	LXD		F2502720
04011	0	02000	4	00001	TRA	1,4		F2502730
						*****		F2502740
						TDOTG IS CALLED BY MAN TO READ IN A NEST OF DOTAG ENTRIES.		F2502750
04012	0	53400	1	05132	TDOTG	LXA	L(5),1	F2502760
04013	0	53400	2	05057	TDOTG1	LXA	LMXDTG,2	F2502770
04014	0	76200	0	00222	RDS	146	LOC. OF DOTAGZ	F2502780
04015	0	70000	2	01076	TDOTG4	CPY	DOTAGZ,2	F2502790
04016	1	77777	2	04015	TXI	TDOTG4,2,-1		F2502800
04017	0	02000	4	00001	TRA	1,4	EF END OF PROBLEM	F2502810
04020	0	76600	0	00333	WRS	219		F2502820
04021	-0	76000	0	00012	RTT			F2502830
04022	0	02000	0	04024	TRA	TDOTG5	ERROR	F2502840
04023	0	02000	4	00002	TRA	2,4	RECORD CORRECTLY READ	F2502850
04024	0	76400	0	00222	TDOTG5	BST	BACKSPACE AND REPEAT	F2502860
04025	2	00001	1	04013	TIX	TDOTG1,1,1	IF NOT YET READ 3 TIMES	F2502870
04026	0	07400	4	00004	TSX	DIAG,4	TAPE 4 READ INCORRECTLY 5 TIMES.	F2502880
						*****		F2502890
						TTG IS CALLED BY MAN TO READ IN A NEST OF TAGTAG ENTRIES		F2502900
04027	0	53400	2	05121	TTG	LXA	LMXTG,2	F2502910
04030	0	53400	1	05132	TTG01	LXA	L(5),1	F2502920
04031	0	76200	0	00224	TTG02	RDS	148	F2502930
04032	-0	63400	2	04043	SXD	TTG10,2	FOR ERROR BACKUP IN READING	F2502940
04033	0	70000	2	02336	TTG05	CPY	MXTGTG,2	F2502950
04034	0	02000	0	04037	TRA	TTG06		F2502960
04035	0	07400	4	00004	TSX	DIAG,4	FALXE END OF FILE ON TAPE 4.	F2502970
04036	0	02000	0	04041	TRA	TTG07	END OF RECORD, CORRECT EXIT.	F2502980
04037	2	00001	2	04033	TTG06	TIX	TTG05,2,1	F2502990
04040	0	07400	4	00004	TSX	DIAG,4	BUFFER EXCEEDED.	F2503000
04041	0	76600	0	00333	TTG07	WRS	219	F2503010
04042	-0	76000	0	00012	RTT			F2503020
04043	-3	00000	0	04051	TTG10	TXL	TTG16	F2503030
04044	1	00004	2	04045	TXI	TTG11,2,4	ERROR IN READING	F2503040
04045	0	50000	2	02336	TTG11	CLA	MXTGTG,2	F2503050
04046	0	40200	0	05123	SUB	ALLONE	FIRST WORD LAST ENTRY	F2503060
04047	0	10000	4	00001	TTG13	TZE	FOR NEST END TEST	F2503070
04050	2	00004	2	04030	TIX	TTG01,2,4	END OF NEST INDICATOR	F2503080
04051	-0	53400	2	04043	TTG16	LXD	TAPE ERROR ROUTINE . LOAD	F2503090
04052	0	76400	0	00224	BST	148	TAG TABLE INDEX AND RETRY	F2503100
04053	2	00001	1	04031	TIX	TTG02,1,1	UP TO 5 TIMES.	F2503110
04054	0	07400	4	00004	TSX	DIAG,4	TAPE 4 READ INCORRECTLY 5 TIMES.	F2503120
						*****		F2503130
						DOGS IS CALLED BY MAN TO SELECT AN ALPHA OR BETA TO BE PRO		F2503140
						CESSED BY THE APPROPRIATE STATE (ALPHA OR BETA).		F2503150
04055	0	50000	0	05133	DOGS	CLA	L(0)	F2503160
							INITIALIZING TO ZERO	

04056 0 60100 0 05224 STO A  
 04057 0 60100 0 05225 STO B  
 04060 0 60100 0 05226 STO SWICH  
 04061 0 60100 0 05227 STO TEBBOX  
 04062 -0 53400 1 05231 LXD DOIND1,1  
 04063 -3 00000 1 04072 TXL DOGS20,1  
 04064 0 50000 0 05233 CLA SWICH1  
 04065 -0 10000 0 04072 TNZ DOGS20  
 04066 0 50000 1 01103 CLA DOTAGZ+5,1  
 04067 -0 73400 1 00000 PDX 0,1  
 04070 3 00001 1 04072 TXH DOGS20,1,1  
 04071 0 02000 4 00001 TRA 1,4  
 04072 0 53400 1 05057 DOGS20 LXA LMXDTG,1  
 04073 0 50000 0 05226 DOGS22 CLA SWICH  
 04074 -0 10000 0 04104 TNZ DOGS25  
 04075 0 50000 1 01076 CLA DOTAGZ,1  
 04076 -0 32000 0 05136 ANA BIT1  
 04077 -0 10000 0 04134 TNZ DOGS50  
 04100 0 50000 1 01076 CLA DOTAGZ,1  
 04101 -0 73400 2 00000 PDX 0,2  
 04102 -0 63400 2 05225 SXD B,2  
 04103 0 02000 0 04114 TRA DOGS30  
 04104 0 50000 1 01076 DOGS25 CLA DOTAGZ,1  
 04105 -0 32000 0 05137 ANA BIT2  
 04106 -0 10000 0 04134 TNZ DOGS50  
 04107 0 50000 1 01076 CLA DOTAGZ,1  
 04110 -0 73400 2 00000 PDX 0,2  
 04111 -0 63400 2 05224 SXD A,2  
 04112 0 73400 2 00000 PAX 0,2  
 04113 -0 63400 2 05225 SXD B,2  
 04114 0 50000 0 05225 DOGS30 CLA B  
 04115 0 34000 0 05227 CAS TEBBOX  
 04116 0 02000 0 04125 TRA DOGS45  
 04117 0 02000 0 04121 TRA DOGS40  
 04120 0 02000 0 04134 TRA DOGS50  
 04121 0 50000 0 05232 DOGS40 CLA TEABOX  
 04122 0 34000 0 05224 CAS A  
 04123 0 02000 0 04134 TRA DOGS50  
 04124 0 07400 4 00004 TSX DIAG,4  
 04125 0 50000 0 05224 DOGS45 CLA A  
 04126 0 60100 0 05232 STO TEABOX  
 04127 0 50000 0 05225 CLA B  
 04130 0 60100 0 05227 STO TEBBOX  
 04131 -0 63400 1 05231 SXD DOIND1,1  
 04132 0 50000 0 05226 CLA SWICH  
 04133 0 60100 0 05233 STO SWICH1  
 04134 0 50000 0 05226 DOGS50 CLA SWICH  
 04135 0 40200 0 05126 SUB L(1)  
 04136 0 76000 0 00003 SSP  
 04137 0 60100 0 05226 STO SWICH  
 04140 -0 10000 0 04142 TNZ DOGS60  
 04141 1 77767 1 04142 TXI DOGS60,1,-9  
 04142 3 00000 1 04073 DOGS60 TXH DOGS22,1  
 04143 -0 53400 1 05231 LXD DOIND1,1

ALL CALLS REQUIRED FOR  
COMPARISON FOR EACH DO

IF LEVEL OF LAST

ANALYZED DOTAG ENTRY  
IS ONE THEN THE NEST  
HAS BEEN COMPLETELY  
ANALYZED. IF NOT  
START SCAN AT FIRST ENTRY

B PORTION UNDER CONSIDERATION  
A PORTION UNDER CONSIDERATION

CONTINUE, ALREADY ANALYZED  
SETS UP A PORTION OF  
DO FOR COMPARISON  
PUT A OF DO IN INDICATOR B  
PROCEED T/ COMPARISON  
B PORTION UNDER CONSIDERATION  
MASK TO INDICATE LOOKED AT  
ALREADY ANALYZED, CONTINUE  
SET UP A IN  
B WORD FOR COMPARISON

T-B1 STORE B IN TEBBOX  
T-B1 COMPARE AS  
T-B1 CONTINUE  
CONPARE AS

T-A CONTINUE  
T=A, ERROR.  
T-A STORE B IN TRBBOX

RECORD THE DO POSITION  
RECORD SWITCH

REVERSE SWITCH FOR  
EITHER B OF SAME DO OR  
A OF NEXT DO

TESTS A,B STATUS IF A  
LOWERS INDEX FOR NEXT DO

END OF SCAN

F2503170  
 F2503180  
 F2503190  
 F2503200  
 F2503210  
 F2503220  
 F2503230  
 F2503240  
 F2503250  
 F2503260  
 F2503270  
 F2503280  
 F2503290  
 F2503300  
 F2503310  
 F2503320  
 F2503330  
 F2503340  
 F2503350  
 F2503360  
 F2503370  
 F2503380  
 F2503390  
 F2503400  
 F2503410  
 F2503420  
 F2503430  
 F2503440  
 F2503450  
 F2503460  
 F2503470  
 F2503480  
 F2503490  
 F2503500  
 F2503510  
 F2503520  
 F2503530  
 F2503540  
 F2503550  
 F2503560  
 F2503570  
 F2503580  
 F2503590  
 F2503600  
 F2503610  
 F2503620  
 F2503630  
 F2503640  
 F2503650  
 F2503660  
 F2503670  
 F2503680  
 F2503690  
 F2503700

04144	-0	63400	1	05230	SXD	DOIND,1	DO INDICATOR SET	F2503710
04145	0	53400	2	05233	LXA	SWICH1,2		F2503720
04146	0	50000	0	05136	CLA	BIT1	ORDER TO PLACE BIT IN	F2503730
04147	-3	00000	2	04151	TXL	DOGS70,2,0	A OR B USED	F2503740
04150	0	77100	0	00001	ARS	1	INDICATOR POSITION	F2503750
04151	-0	60200	1	01076	DOGS70	ORS DOTAGZ,1		F2503760
04152	0	02000	4	00002	TRA	2,4	EXIT AFTER FINDING DO	F2503770
*****F2503780								
SCAN SCANS TAGTAG FOR THE FIRST ENTRY THAT IS MODIFIED BY A								DF2503790
DO WHOSE ALLPHA IS LESS THAN THE CURRENT DOTAG BETA.								F2503800
THIS TAG IS CALLED RTXTGX.								F2503810
04153	0	53400	1	05121	SCAN	LXA LMXTG,1	COMPARE B WITH DOFOR	F2503820
04154	0	50000	0	05225	SCAN05	CLA B	DOTAG A OF EACH TAGTAG	F2503830
04155	0	34000	1	02336	CAS	MXTGTG,1	ENTRY IN NEST	F2503840
04156	1	00004	1	04161	TXI	SCAN10,1,4	SEARCH COMPLETED.	F2503850
04157	0	07400	4	00004	TSX	DIAG,4	EQUALITY IMPOSSIBLE.	F2503860
04160	1	77774	1	04154	TXI	SCAN05,1,-4	G LESS THAN A.	F2503870
04161	0	02000	4	00001	SCAN10	TRA 1,4		F2503880
*****F2503890								
FIND, BEGINNING WITH RTXTGX, SEARCHES FOR A TAGTAG ENTRY MODIF								F2503900
FIED BY THE CURRENT DO.								F2503910
04162	-0	63400	4	04176	FIND	SXD FIND22,4		F2503920
04163	-0	53400	1	05237	LXD	XTG,1		F2503930
04164	1	77774	1	04165	FIND04	TXI FIND10,1,-4	BUMP TO NEXT TGTG ENTRY.	F2503940
04165	3	00000	1	04170	FIND10	TXH FIND20,1	DECREMENT CONTAINS TGTG COUNT.	F2503950
04166	-0	53400	4	04176	LXD	FIND22,4		F2503960
04167	0	02000	4	00001	TRA	1,4	END OF TGTG TABLE AND DO.	F2503970
04170	0	50000	0	05224	FIND20	CLA A	COMPARE DOTAGA WITH	F2503980
04171	0	34000	1	02336	CAS	MXTGTG,1	TGTG DOFOR DOTAG A.	F2503990
04172	0	02000	0	04166	TRA	FIND10+1	END OF DO.	F2504000
04173	0	76100	0	00000	NOP			F2504010
04174	0	07400	4	04213	TSX	TGFM,4		F2504020
04175	0	07400	4	04204	TSX	ISC,4		F2504030
04176	-3	00000	0	04164	FIND22	TXL FIND04,0	POSIND=3 IF LEFTMOST SYMBOL.	F2504040
04177	-0	75400	2	00000	PXD	0,2	2IF CENTER.	F2504050
04200	0	77100	0	00022	ARS	18	1 IF RIGHTMOST.	F2504060
04201	0	60100	0	05240	STO	POSIND		F2504070
04202	-0	53400	4	04176	LXD	FIND22,4		F2504080
04203	0	02000	4	00002	TRA	2,4	SUCCESSFUL SEARCH.	F2504090
*****F2504100								
ISC IS CALLED BY FIND TO TEST FOR MODIFICATION.								F2504110
04204	0	53400	2	05126	ISC	LXA L(1),2	COMPARE SUBSCRIPT	F2504120
04205	0	50000	0	05230	CLA	DOIND	WITH THE INDEX	F2504130
04206	0	40200	2	03652	SUB	TAG2+3,2	OF THE CURRENT DO.	F2504140
04207	0	10000	4	00002	TZE	2,4	CURRENT DO MODIFIES THIS TAG.	F2504150
04210	1	00001	2	04211	TXI	ISC+5,2,1	TRY NEXT LEFT	F2504160
04211	-3	00003	2	04205	TXL	ISC+1,2,3	SUBSCRIPT.	F2504170
04212	0	02000	4	00001	TRA	1,4	NO MODIFICATION, ERROR RETURN.	F2504180
*****F2504190								
TGFM TAKES A TAG ENTRY AND STORES ITS INFORMATION INTO								F2504200
WORKING TGTG.								F2504210
04213	0	50000	1	02336	TGFM	CLA MXTGTG,1		F2504220
04214	0	62200	0	03646	STD	TAG1	IN WORKING TGTG.	F2504230
04215	0	73400	2	00000	PAX	0,2	A, X1, X2, X3, TG, TG1.	F2504240

04216	-0	63400	2	03647	SXD	TAG2,2		F2504250
04217	0	50000	1	02337	CLA	MXGTGTG+1,1		F2504260
04220	0	62200	0	03650	STD	TAG2+1		F2504270
04221	0	73400	2	00000	PAX	0,2		F2504280
04222	-0	63400	2	03651	SXD	TAG2+2,2		F2504290
04223	0	50000	1	02340	CLA	MXGTGTG+2,1		F2504300
04224	0	60100	0	03652	STO	TAG3		F2504310
04225	0	50000	1	02341	CLA	MXGTGTG+3,1		F2504320
04226	0	60100	0	03653	STO	TAG4		F2504330
04227	0	02000	4	00001	TRA	1,4		F2504340
							*****	F2504350
							ENTR SIMPLATES A TAU ENTRY AND SPREADS IS INTO WORKING TAG--	F2504360
04230	-0	53400	2	05230	ENTR	LXD	DOIND,2	F2504370
04231	0	50000	2	01077	CLA	DOTAGZ+1,2	SYMBOL OF DO IS	F2504380
04232	0	60100	0	03637	STO	WRKSC+1	PLACED IN WRKSC	F2504390
04233	0	50000	0	05061	CLA	LIDEC	AND COEF. IS SET	F2504400
04234	0	60100	0	03636	STO	WRKSC	=1. THIS SIMULATES	F2504410
04235	0	02000	4	00001	TRA	1,4	A TAU TABLE ENTRY.	F2504420
							*****	F2504430
							SUBCOM SPREADS A TAU ENTRY INTO WORKING TAG	F2504440
04236	-0	63400	4	04320	SUBCOM	SXD	SUB085,4	F2504450
04237	0	53400	1	05132	LXA	L(5),1	SAVE LINKAGE.	F2504460
04240	0	60100	0	04331	STO	SUBTAG		F2504470
04241	0	76200	0	00304	SUB010	RDS	196	F2504480
04242	-0	53400	4	04326	LXD	SUBORG+2,4	SELECT TAU DRUM.	F2504490
04243	-0	75400	0	00000	PXD	0,0	INITIALIZE	F2504500
04244	0	60100	4	03646	SUB020	STO	WRKSC+8,4	F2504510
04245	2	00001	4	04244	TIX	SUB020,4,1	SUBSCRIPT COMBINATION.	F2504520
04246	0	50000	0	04331	CLA	SUBTAG	TO ZERO.	F2504530
04247	0	76500	0	00011	LRS	9		F2504540
04250	0	73400	6	00000	PAX	0,6	TAU 1,2, OR 3.	F2504550
04251	-0	75400	0	00000	PXD	0,0	TAU 1 ADD. IS ORG+3TAU.	F2504560
04252	0	76300	0	00011	LLS	9	TAU2 ADD. IS ORG+5TAU.	F2504570
04253	0	60100	0	04327	STO	SUBES1	TAU THREE ADD. IS ORG+7TAU.	F2504580
04254	0	76700	0	00001	ALS	1	STORE	F2504590
04255	0	60100	0	04330	STO	SUBES2	ADDRESS	F2504600
04256	0	50000	4	04327	CLA	SUBORG+3,4		F2504610
04257	0	40000	0	04327	ADD	SUBES1	FOR LDA	F2504620
04260	0	40000	0	04330	ADO	SUBES2	INSTRUCTION.	F2504630
04261	2	00001	4	04260	TIX	SUB030,4,1		F2504640
04262	0	62100	0	04327	STA	SUBES1	ACTUAL DRUM ADDRESS.	F2504650
04263	0	46000	0	04327	LDA	SUBES1	COPY SUB. COMBINATION	F2504660
04264	0	70000	0	03636	CPY	WRKSC	WD1 IS C1 AND C2.	F2504670
04265	-3	00002	2	04267	TXL	SUB040,2,2	1 AND 2 DIM SKIP WD5.	F2504680
04266	0	70000	0	03642	CPY	WRKSC+4	WD5 IS C3.	F2504690
04267	0	70000	0	03637	SUB040	CPY	WRKSC+1	F2504700
04270	-3	00001	2	04275	TXL	SUB060,2,1	WD2 IS S1.	F2504710
04271	0	70000	0	03641	CPY	WRKSC+3	1 DIM., SKIP WDS 4,6,7.	F2504720
04272	-3	00002	2	04274	TXL	SUB050,2,2	WD4 IS S2.	F2504730
04273	0	70000	0	03643	CPY	WRKSC+5	1 AND 2 DIM SKIP WD 6.	F2504740
04274	0	70000	0	03644	SUB050	CPY	WRKSC+6	F2504750
04275	0	70000	0	04327	SUB060	CPY	SUBES1	F2504760
04276	-0	53400	4	04324	LXD	SUBORG,4	CHECK SUM INTO SUBES1.	F2504770
04277	-0	50000	0	03636	CAL	WRKSC	COMPUTE CHECK SUM.	F2504780



	04300	0	36100	4	03645	SUB070	ACL	WRKSC+7,4			F2504790
	04301	2	00001	4	04300		TIX	SUB070,4,1	3 ATTEMPTS ARE MADE		F2504800
	04302	0	60200	0	04330		SLW	SUBES2	TO READ SC CORRECTLY.		F2504810
	04303	0	50000	0	04330		CLA	SUBES2	IF ERROR STILL PRESENT,		F2504820
	04304	0	40200	0	04327		SUB	SUBES1	COMPLETE ROUTINE, RETURN.		F2504830
	04305	0	10000	0	04310		TZE	SUB075	CHECK SUMS AGREE, TRA.		F2504840
	04306	2	00001	1	04241		TIX	SUB010,1,1	ERROR, TRY UP TO 5 TIMES.		F2504850
	04307	0	07400	4	00004		TSX	DIAG,4	DRUM 4 READING ERROR 5 TIMES.		F2504860
	04310	-0	53400	4	04325	SUB075	LXD	SUBORG+1,4	REARRANGE C1,C2,D1, AND D2.		F2504870
	04311	0	50000	4	03645	SUB080	CLA	WRKSC+7,4			F2504880
	04312	0	73400	2	00000		PAX	0,2	C2 INTO XB.		F2504890
	04313	-0	32000	0	05142		ANA	DECM SK			F2504900
	04314	0	60100	4	03645		STO	WRKSC+7,4	WD1 DECREMENT IS C1)		F2504910
	04315	-0	75400	2	00000		PXD	0,2	WD7 DECREMENT IS D1.		F2504920
	04316	-2	00006	4	04321		TNX	SUB090,4,6			F2504930
	04317	0	60100	0	03640		STO	WRKSC+2			F2504940
D	04320	-3	00000	0	04311	SUB085	TXL	SUB080,0	WD8 DECREMENT IS D2.		F2504950
	04321	0	60100	0	03645	SUB090	STO	WRKSC+7	RESTORE LINKAGE INDEX.		F2504960
	04322	-0	53400	4	04320		LXD	SUB085,4			F2504970
	04323	0	02000	4	00001	SUB100	TRA	1,4			F2504980
	04324	+000006001356				SUBORG	OCT	000006001356	DECREMENT IS 6, ADD. IS ORG. TAU3.		F2504990
	04325	+000007000454					OCT	000007000454	DECREMENT IS 7, ADD. IS ORG. TAU2		F2505000
	04326	+000010000000					OCT	000010000000	DECREMENT IS 8, ADD. IS ORG. TAU1		F2505010
A	04327	0	00000	0	00000	SUBES1	HTR				F2505020
A	04330	0	00000	0	00000	SUBES2	HTR				F2505030
	04331	0	00000	0	00000	SUBTAG					F2505040
									*****F2505050		
									LOCO ASSIGNS A RELATIVE LOCATION (INSTRUCTION NUMBER), AND UPF		F2505060
									DATES A COUNTER FOR THE NEXT ASSIGNMENT.		F2505070
	04332	0	50000	0	05222	LOCO	CLA	LOCIND			F2505080
	04333	0	10000	2	00001		TZE	1,2	LOCATION ALREADY ASSIGNED.		F2505090
	04334	0	50000	0	05133		CLA	L(0)	IF LOCIND GREATER		F2505100
	04335	0	60100	0	05222		STO	LOCIND			F2505110
	04336	0	50000	0	05176		CLA	CIL00	TO ZERO.		F2505120
	04337	-0	10000	2	00001		TNZ	1,2	IF CIL00 HAS NOT BEEN		F2505130
	04340	0	50000	0	05244		CLA	VCTR			F2505140
	04341	0	60100	0	05176		STO	CIL00	UPDATE VCTR.		F2505150
	04342	0	40000	0	05110		ADD	L(8)			F2505160
	04343	0	60100	0	05244		STO	VCTR			F2505170
	04344	0	02000	2	00001		TRA	1,2	START COMPARING BUFFER		F2505180
									*****F2505190		
									CIT ENTERS A COMPILED INSTRUCTION INTO THE COMPILED INSTRUCTIF		F2505200
									ION BUFFER. IF THE BUFFER IS FULL, CITSP (WHICH IS PART OF CF		F2505210
									CIT) WRITES IT ONTO TAPE 3.		F2505220
	04345	-0	63400	1	05174	CIT	SXD	E2C,1	SIZE TO CURRENT WORD COUNT.		F2505230
	04346	-0	63400	2	05175		SXD	E3C,2			F2505240
	04347	0	07400	2	04332		TSX	LOCO,2			F2505250
	04350	-0	53400	2	05173		LXD	BBOX,2	COMP OF CURRENT WORD COUNT.		F2505260
	04351	3	77634	2	04362		TXH	CIT04,2,-100	IF BUFFER INITIALLY		F2505270
	04352	-0	53400	2	05173	CITSP	LXD	BBOX,2			F2505280
	04353	-3	00000	2	04362		TXL	CIT04,2,0	WRITE		F2505290
	04354	0	76600	0	00223		WRS	147	BUFFER		F2505300
	04355	0	53400	1	05133		LXA	L(0),1	ON TAPE 3.		F2505310
	04356	0	70000	1	00030	CIT01	CPY	CIB,1	COPY LOOP.		F2505320

04357	1	77777	1	04360	TXI	CIT02,1,-1		F2505330
04360	1	00001	2	04361	CIT02	TXI	CIT03,2,1	F2505340
04361	3	00001	2	04356	CIT03	TXH	CIT01,2,1	F2505350
04362	0	53400	1	05130	CIT04	LXA	L(4),1	F2505360
04363	0	50000	1	05202	CIT05	CLA	CIL00+4,1	F2505370
04364	0	60100	2	00030	STO	CIB,2		F2505380
04365	1	77777	2	04366	TXI	CIT07,2,-1	KEEP WORD COUNT UPDATED.	F2505390
04366	2	00001	1	04363	CIT07	TIH	CIT05,1,1	F2505400
04367	-0	63400	2	05173	SXD	BBOX,2	SAVE CURRENT WD CT.	F2505410
04370	-0	53400	1	05174	LXD	E2C,1		F2505420
04371	-0	53400	2	05175	LXD	E3C,2		F2505430
04372	0	02000	4	00001	TRA	1,4		F2505440
*****F2505450								
04373	-0	53400	1	03647	SCLMN1	LXD	TAG2,1	F2505460
04374	-0	53400	2	03650	LXD	TAG2+1,2	S1 INDEX QUANTITY.	F2505470
04375	-0	63400	2	04376	SXD	SCLMN2,2	S2 INDEX QUANTITY.	F2505480
04376	3	00000	1	04400	SCLMN2	TXH	SCLMN3,1	F2505490
04377	-0	53400	1	04376	LXD	SCLMN2,1	THIS ROUTINE	F2505500
04400	-0	53400	2	03651	SCLMN3	LXD	TAG2+2,2	F2505510
04401	-0	63400	2	04402	SXD	SCLMN4,2	COMPARES SIZES	F2505520
04402	3	00000	1	04404	SCLMN4	TXH	SCLMN5,1	F2505530
04403	-0	53400	1	04402	LXD	SCLMN4,1	OF THE INDEX	F2505540
04404	-0	75400	1	00000	SCLMN5	PXD	0,1	F2505550
04405	0	02000	4	00001	TRA	1,4	QUANTITIES OF	F2505560
*****F2505570								
04406	0	53400	1	05131	TELC	LXA	L(3),1	F2505580
04407	0	50000	0	05133	CLA	L(0)	TELC MONITORS THE COMPUTING OF THE LOAD PORTION OF THE TEST	F2505590
04410	0	60100	0	05245	STO	ERTX01	DECREMENT.	F2505600
04411	-0	63400	4	05236	SXD	LINKC,4		F2505610
04412	0	50000	1	03652	TELC05	CLA	TAG2+3,1	F2505620
04413	-0	73400	2	00000	PDX	0,2	SEQUENCE. PUT S IN XB TO PREPARE	F2505630
04414	-3	00000	2	04416	TXL	TELC10-2,2,0	FOR CN1IJ ROUTINE.	F2505640
04415	0	07400	4	04423	TSX	CN1IJ,4	NO S, GO TO NEXT S.	F2505650
04416	0	40000	0	05245	ADD	ERTX01	COMPUTE (CN1-1)IJ ETC.	F2505660
04417	0	60100	0	05245	STO	ERTX01	(C1N1)+(C2N1-1)D1+(C3N1-1)D1D2.	F2505670
04420	2	00001	1	04412	TELC10	TIH	TELC05,1,1	F2505680
04421	-0	53400	4	05236	LXD	LINKC,4	GO TO NEXT S FOR CN1IJ ROUTINE.	F2505690
04422	0	02000	4	00001	TRA	1,4		F2505700
*****F2505710								
04423	0	56000	2	01100	CN1IJ	LDQ	DOTAGZ+2,2	F2505720
04424	0	76300	0	00022	LLS	18	N2 INTO MQ.	F2505730
04425	-3	00002	1	04431	TXL	CN1IJ2,1,2		F2505740
04426	0	20000	0	03636	MPY	WRKSC	S2 OR S3, TRANSFER.	F2505750
04427	0	40200	0	05127	SUB	L(2)	S1,	F2505760
04430	0	02000	0	04445	TRA	CN1IJ8		F2505770
04431	-3	00001	1	04437	CN1IJ2	TXL	CN1IJ4,1,1	F2505780
04432	0	20000	0	03640	MPY	WRKSC+2	DIVIDE BY 2 AND RETURN.	F2505790
04433	0	40200	0	05127	SUB	L(2)	S2	F2505800
							COMPUTE	F2505810
								F2505820
								F2505830
								F2505840
								F2505850
								F2505860

04434	0	76500	0	00022	LRS	18	(2C2N1-2)D1D2 THEN	F2505870
04435	0	20000	0	03644	MPY	WRKSC+6	GO TO CN1IJ8 TO DIVIDE	F2505880
04436	0	02000	0	04445	TRA	CN1IJ8	BY 2 AND RETURN.	F2505890
04437	0	20000	0	03642	MPY	WRKSC+4	S3,	F2505900
04440	0	40200	0	05127	SUB	L(2)	COMPUTE	F2505910
04441	0	76500	0	00022	LRS	18	(2C3N1-2)D1D2 THEN	F2505920
04442	0	20000	0	03644	MPY	WRKSC+6	GO TO CN1IJ8 TO DIVIDE	F2505930
04443	0	76500	0	00022	LRS	18	DIVIDE BY 2 AND	F2505940
04444	0	20000	0	03645	MPY	WRKSC+7	RETURN.	F2505950
04445	0	77100	0	00001	ARS	1	DIVIDE BY 2. RESULT IS (C1N1-1)	F2505960
04446	0	02000	4	00001	TRA	1,4	OR (C2N1-1)D1 OR (C3N1-1)D1D2.	F2505970
*****								F2505980
CXIJ COMPUTES GN3X. WHEN THE ROUTINE CXIJ+2 IS CALLED,								F2505990
GQ IS COMPUTED, Q BEING WHATEVER PARAMETER IS LEFT IN THE ACCF								F2506000
BY THE CALLER.								F2506010
04447	0	50000	2	01103	CXIJ	CLA	DOTAGZ+5,2	F2506020
04450	-0	32000	0	05141	ANA	ADMSK	ISOLATE X QUANTITY.	F2506030
04451	0	60100	0	05247	STO	ERTX03		F2506040
04452	3	00001	1	04455	TXH	CXIJ+6,1,1	S2 OR S1.	F2506050
04453	0	56000	0	03642	LDQ	WRKSC+4	S3, LOAD C3.	F2506060
04454	0	02000	0	04461	TRA	CXIJ2		F2506070
04455	-3	00002	1	04460	TXL	CXIJ1,1,2	S2.	F2506080
04456	0	56000	0	03636	LDQ	WRKSC	S1, LOAD C1.	F2506090
04457	0	02000	0	04461	TRA	CXIJ2		F2506100
04460	0	56000	0	03640	CXIJ1	LDQ	S2, LOAD C2.	F2506110
04461	0	20000	0	05247	CXIJ2	MPY		F2506120
04462	3	00002	1	04470	TXH	CXIJ4,1,2	IF S1, FINISHED.	F2506130
04463	0	76500	0	00022	LRS	18		F2506140
04464	0	20000	0	03644	MPY	WRKSC+6	CX TIMES D1.	F2506150
04465	3	00001	1	04470	TXH	CXIJ4,1,1	IF S2, FINISHED.	F2506160
04466	0	76500	0	00022	LRS	18		F2506170
04467	0	20000	0	03645	MPY	WRKSC+7	CXD1 TIMES D2.	F2506180
04470	0	76300	0	00021	CXIJ4	LLS		F2506190
04471	0	02000	4	00001	TRA	1,4	IN ACC. AND RETURN.	F2506200
*****								F2506210
CSXD COMPILES AN SXD INSTRUCTION WHERE THE ADDRESS IS NOT YET								F2506220
KNOWN, BUT IS KNOWN TO BE THE TEST FOR A GIVEN DO. THE								F2506230
ADDRESS WORD IS FILLED IN WITH THAT DOTAG ALPHA-BETA AND THE								F2506240
LOCATION OF THE SXD IS STORED IN THAT DOTAG SO THAT A TABLE								F2506250
(SXDTX) MAY BE MADE FOR REFERENCE BY SECTION 3 TO FILL IN THE								F2506260
PROPER ADDRESS DURING MERGE.								F2506270
04472	-0	63400	4	05245	CSXD	SXD	ROUTINE FOR	F2506280
04473	0	07400	4	06224	TSX	CILV,4	COMPILING AN	F2506290
04474	0	50000	0	05133	CLA	L(0)	SXD INSTRUCTION	F2506300
04475	0	60100	0	05201	STO	CIL03	WHERE THE	F2506310
04476	0	60100	0	05200	STO	CIL02		F2506320
04477	-0	53400	4	05250	LXD	BLKNUM,4		F2506330
04500	-3	00002	4	04503	TXL	CSXD4,4,2	BLOCKS B,C.	F2506340
04501	-0	53400	4	03650	LXD	TAG21,4	BLOCKS D,E, LOAD S2 INDEX.	F2506350
04502	0	02000	0	04504	TRA	CSXD4+1		F2506360
04503	-0	53400	4	03647	CSXD4	LXD	BLOCKS B,C, LOAD S1 INDEX.	F2506370
04504	0	50000	4	01076	CLA	DOTAGZ,4	FOR BLOCKS B,C, FILL IN	F2506380
04505	-0	32000	0	05071	ANA	NOPRET	SYMBOLIC ADDRESS OF SXD	F2506390
04506	0	60100	0	05200	STO	CIL02	FROM WD1 OF S1 DOTAG.	F2506400

04507	0	50000	0	03652	CLA TAG3	NOT KNOWN.	F2506410
04510	0	62100	0	05201	STA CIL03		F2506420
04511	0	50000	0	05045	CLA L(SXD)		F2506430
04512	0	60100	0	05177	STO CIL01		F2506440
04513	0	07400	4	04345	TSX CIT,4		F2506450
04514	-0	53400	4	05245	LXD ERTX01,4		F2506460
04515	0	02000	4	00001	TRA 1,4		F2506470
*****							F2506480
ADTGSE FINDS A VALID DRMTG (ADTAG) ENTRY FOR CONSIDERATION							F2506490
AND SPREADS IT INTO WORKING TAG (WRKSC).							F2506500
04516	-0	53400	1	05237	ADTGSE LXD XTG,1		F2506510
04517	1	77774	1	04520	ADTGS TXI ADTGS+1,1,-4		F2506520
04520	-0	63400	1	05237	SXD XTG,1		F2506530
04521	3	00000	1	04523	ADTGS1 TXH ADTGS5,1		F2506540
04522	0	02000	4	00001	TRA 1,4	END OF TABLE.	F2506550
04523	0	50000	1	03466	ADTGS5 CLA ADTGMX,1	COMPARE ADTG DDA WITH	F2506560
04524	-0	32000	0	05142	ANA DECMSK	DOTAG A AND B UNTIL	F2506570
04525	0	34000	0	05224	CAS A	WE FIND AN ADTAG	F2506580
04526	0	02000	0	04531	TRA ADTGS4	MODIFIED BY A DO THAT	F2506590
04527	0	02000	0	04531	TRA ADTGS4	IS WITHIN THE RANGE	F2506600
04530	0	02000	0	04517	TRA ADTGS	OF THE CURRENT DO	F2506610
04531	0	34000	0	05225	ADTGS4 CAS B		F2506620
04532	0	02000	0	04517	TRA ADTGS	NOT IN RANGE, SELECT NEXT.	F2506630
04533	0	07400	4	00004	TSX DIAG,4	EQUALITY IMPOSSIBLE.	F2506640
04534	0	50000	1	03466	CLA ADTGMX,1	IN RANGE, FILL	F2506650
04535	-0	73400	2	00000	PDX 0,2	OUT WORKING TAG.	F2506660
04536	-0	63400	2	03646	SXD TAG1,2	DDA IN TAG1 DECREMENT.	F2506670
04537	0	73400	2	00000	PAX 0,2		F2506680
04540	-0	63400	2	03647	SXD TAG2,2	S1 INDEX IN TAG2.	F2506690
04541	0	50000	1	03467	CLA ADTGMX+1,1		F2506700
04542	-0	73400	2	00000	PDX 0,2	S2 INDEX IN TAG2+1.	F2506710
04543	-0	63400	2	03650	SXD TAG2+1,2		F2506720
04544	0	73400	2	00000	PAX 0,2	S3 INDEX IN TAG2+2.	F2506730
04545	-0	63400	2	03651	SXD TAG2+2,2		F2506740
04546	0	50000	1	03470	CLA ADTGMX+2,1		F2506750
04547	0	60100	0	03652	STO TAG3	TAG NAME IN TAG3.	F2506760
04550	0	50000	1	03471	CLA ADTGMX+3,1		F2506770
04551	0	60100	0	03653	STO TAG4	ADTG WD4 IN TAG4.	F2506780
04552	0	53400	2	05126	ADTGS8 LXA L(1),2	INIT FOR POSING.	F2506790
04553	0	50000	2	03652	CLA TAG2+3,2		F2506800
04554	0	40200	0	05230	SUB DOIND	TEST FOR MODIFICATION.	F2506810
04555	0	10000	4	00002	TZE 2,4	PROPER ENTRY FOUND.	F2506820
04556	3	00002	2	04517	TXH ADTGS,2,2	NOT MOD BY DO, TAKE NEXT SUBSCRIPT.	F2506830
04557	1	00001	2	04553	TXI ADTGS8+1,2,1	ADTG NOT MOD BY DO, TAKE NEXT ADTG.	F2506840
*****							F2506850
N1STET ISOLATES VARIABLE N1 BITS FOR A TAG AND ORS THEM TO							LF2506860
LAST 3 BITS OF THE WORD N1SBX.							F2506870
04560	0	50000	0	03653	N1STET CLA TAG4		F2506880
04561	0	77100	0	00003	ARS 3	ONE BIT	F2506890
04562	-0	32000	0	05076	ANA L(7)	IS STORED IN N1SBX.	F2506900
04563	0	76700	0	00003	ALS 3		F2506910
04564	0	60100	0	05254	STO N1SBX		F2506920
04565	0	53400	1	05131	LXA L(3),1		F2506980
04566	0	50000	1	03652	N1S02 CLA TAG2+3,1	A CONATAINS POSIND.	F2506990

D	04567	-0	73400	2	00000		PDX 0,2		F2507000
	04570	-3	00000	2	04576		TXL N1S05,2	NO TAG FOR THIS POS.	F2507010
	04571	0	50000	2	01076		CLA DOTAGZ,2	ISOLATE	F2507020
	04572	0	77100	0	00017		ARS 15	VARIABLE	F2507030
	04573	-0	32000	0	05130		ANA L(4)	N1	F2507040
	04574	0	77100	1	00003		ARS 3,1	BIT.	F2507050
	04575	-0	60200	0	05254		ORS N1SBX	OR N1BIT TO N1SBX.	F2507060
	04576	2	00001	1	04566	N1S05	TIX N1S02,1,1	REPEAT FOR NEXT RIGHT S.	F2507070
	04577	0	50000	0	05254		CLA N1SBX		F2507080
	04600	0	02000	4	00001		TRA 1,4		F2507090
							*****		F2507100
							FIXCON SCANS THE FIXCON DRUM TABLE FOR A DESIRED SYMBOL FOR AF2507110		F2507110
							FIXED POINT CONSTANT. IF THE DESIRED FIXCON IS NOT THERE A SF2507120		F2507120
							SYMBOL IS CREATED FOR IT AND AN ENTRY IS MADE.		F2507130
	04601	-0	63400	1	04634	FIXCON	SXD FC29,1	SAVE	F2507140
	04602	-0	63400	2	04624		SXD FC18,2	INDEX	F2507150
	04603	-0	63400	4	04636		SXD FC34,4	REGISTERS.	F2507160
M	04604	0	60100	0	05243		STO ERDRM1		F2507170
	04605	0	53400	4	05132		LXA L(5),4		F2507180
	04606	0	50000	0	04667	FC02	CLA ORIGIN	FIXCON TABLE ORIGIN.	F2507190
	04607	0	60100	0	05214		STO AD1		F2507200
	04610	0	53400	1	05133		LXA L(0),1	INITIALIZE WORD COUNT TEST INDICATOR.	F2507210
	04611	0	53400	2	05127		LXA L(2),2	INITIALIZE INDICATOR FOR TWO PASSES.	F2507220
M	04612	0	50000	0	05243	FC04	CLA ERDRM1	COMPARISON WORD IN ACCUMULATOR.	F2507230
	04613	0	76200	0	00302		RDS 194	FIXCON TABLE	F2507240
	04614	0	46000	0	05214		LDA AD1	ON DRUM 3.	F2507250
	04615	0	70000	0	05241	FC08	CPY CPYWD1	ENTRY FROM TABLE.	F2507260
D	04616	3	00000	1	04627		TXH FC24+1,1	DECREMENT CONTAINS WORD COUNT.	F2507270
	04617	0	70000	0	05242		CPY CPYWD2	CHECK SUM.	F2507280
	04620	0	04000	0	04635		TLQ FC30	ENTRY LESS THAN COMPARISON WORD.	F2507290
	04621	0	70000	0	05246		CPY ERDRM	SKIP EVEN ENTRIES FOR 2ND PASS.	F2507300
	04622	0	34000	0	05242		CAS CPYWD2	COMPARE ENTRY WITH COMPARISON WORD.	F2507310
	04623	0	07400	4	00004		TSX DIAG,4	TLOOBIATES THIS PATH.	F2507320
D	04624	-3	00000	0	04662	FC18	TXL FC60,0	EQUALITY SEARCH ENDED.	F2507330
	04625	0	70000	0	05246	FC20	CPY ERDRM	SKIP EVEN ENTRIES FOR 2ND PASS.	F2507340
	04626	1	00002	1	04615	FC24	TXI FC08,1,2	BUMP WORD COUNT TEST INDICATOR	F2507350
	04627	-2	00001	2	04637		TNX FC40,2,1	TEST FOR PASS CONDITION.	F2507360
	04630	0	50000	0	05214		CLA AD1	INITIALIZE ORIGIN DRUM	F2507370
	04631	0	40000	0	05127		ADD L(2)	ADDRESS FOR 2ND PASS	F2507380
	04632	0	60100	0	05214		STO AD1	(EVEN ENTRIES)	F2507390
	04633	0	53400	1	05126	FC28	LXA L(1),1	SET ENTRY NUMBER FOR SECOND PASS.	F2507400
D	04634	-3	00000	0	04612	FC29	TXL FC04,0	RETURN TO FC04 FOR SECOND PASS.	F2507410
	04635	0	70000	0	05246	FC30	CPY ERDRM		F2507420
D	04636	-3	00000	0	04625	FC34	TXL FC20,0		F2507430
	04637	0	60100	0	05241	FC40	STO CPYWD1	SEARCH ENDED, ENTRY NOT FOUND.	F2507440
	04640	-0	53400	1	04616		LXD FC08+1,1		F2507450
	04641	1	00001	1	04642		TXI FC42,1,1	WORD COUNT.	F2507460
	04642	-0	63400	1	04616	FC42	SXD FC08+1,1	NEW TEST VALUE (WORD COUNT).	F2507470
	04643	-0	75400	1	00000		PXD 0,1	WORD COUNT	F2507480
	04644	0	77100	0	00021		ARS 17	PLUS	F2507490
	04645	0	40000	0	04667		ADD ORIGIN	ORIGIN EQUALS	F2507500
	04646	0	60100	0	05214		STO AD1	NEW ADDRESS FOR DRUM WRITING.	F2507510
	04647	0	76600	0	00302		WRS 194	SELECT	F2507520
	04650	0	46000	0	05214		LDA AD1	DRUM AND	F2507530

04651	0	70000	0	05241	CPY CPYWD1	WRITE NEW CONSTANT	F2507540
04652	0	70000	0	05241	CPY CPYWD1	AND CHECK SUM ON DRUM.	F2507550
04653	-0	75400	1	00000 FC50	PXD 0,1	PLACE NAME OF CONSTANT	F2507560
04654	0	77100	0	00022	ARS 18	IN ACCUMULATOR, RESTORE X REGISTERS,	F2507570
04655	-0	50100	0	05101	ORA BCD2	AND RETURN	F2507580
04656	-0	53400	1	04634	LXD FC29,1	TO	F2507590
04657	-0	53400	2	04624	LXD FC18,2	MAIN	F2507600
04660	-0	53400	4	04636	LXD FC34,4		F2507610
04661	0	02000	4	00001	TRA 1,4	ROUTINE.	F2507620
04662	0	50000	0	05241 FC60	CLA CPYWD1	TEST DRUM READING.	F2507630
04663	0	40200	0	05242	SUB CPYWD2		F2507640
04664	0	10000	0	04653	TZE FC50	DRUM READ CORRECTLY.	F2507650
04665	2	00001	4	04606	TIX FC02,4,1	RETURN FOR 1ST PASS.	F2507660
04666	0	07400	4	00004 STOPFC	TSX DIAG,4	DRUM 4 READING ERROR 5 TIMES.	F2507670
04667	0	00000	0	00002 ORIGIN	HTR 2		F2507680
*****F2507690							
OP2 IS CALLED BY THE ALPHA STATE TO TEST FOR OPTIMIZATION IN							F2507700
THE COMILATION OF LOAD VALUE COMPUTATION. IT OPTIMIZES WHEN							F2507710
(CN1-1)=0 OR IS COMPUTABLE AT EXECUTIVE TIME.							F2507720
04670	0	50000	4	77776 OP2	CLA 32766,4		F2507730
04671	0	62100	0	04740	STA RETURN	LINKAGE.	F2507740
04672	0	50000	1	03652	CLA TAG2+3,1	IF S IS NOT	F2507750
04673	-0	73400	2	00000	PDX 0,2	DEFINED BY A DO,	F2507760
04674	3	00000	2	04676	TXH OP2P,2,0		F2507770
04675	0	02000	4	00001	TRA 1,4		F2507780
04676	0	50000	2	01100 OP2P	CLA DOTAGZ+2,2	IF NOT DEFINED BY	F2507790
04677	-0	32000	0	05104	ANA 60NES		F2507800
04700	-0	10000	4	00001	TNZ 1,4	RETURN TO MAIN ROUTINE.	F2507810
04701	0	50000	2	01100	CLA DOTAGZ+2,2	IF CONSTANT, COMPUTE	F2507820
04702	0	07400	4	04423	TSX CN11J,4		F2507830
04703	0	10000	0	04740	TZE RETURN	RETURN AND CONSIDER S2.	F2507840
04704	0	76700	0	00022	ALS 18	OTHERWISE COMPUTE	F2507850
04705	-3	00002	1	04707	TXL OP2P1,1,2		F2507860
04706	0	40000	0	05061	ADD L1DEC	TO (CN1-1).	F2507870
04707	0	07400	4	04601 OP2P1	TSX FIXCON,4		F2507880
04710	-3	00002	1	04713	TXL OP2P2,1,2		F2507890
04711	0	60100	0	07567	STO ORO00+1		F2507900
04712	2	00001	1	05517	TIX AC050,1,1		F2507910
04713	0	73400	1	00000 OP2P2	PAX 0,1		F2507920
04714	-0	32000	0	05104	ANA 60NES	ASSIGN FIXCON SYMBOL.	F2507930
04715	0	60100	0	05200	STO CIL02	CHECK SUBSCRIPT. IF	F2507940
04716	-0	75400	1	00000	PXD 0,1	S1, TRA RETURN (3RD). OTHERWISE	F2507950
04717	0	60100	0	05201	STO CIL03	COMPILE ADD L(SYMBOL).	F2507960
04720	0	50000	0	05054	CLA L(ADD)	STO 1)+3.	F2507970
04721	0	60100	0	05177	STO CIL01		F2507980
04722	0	50000	0	05133	CLA L(0)		F2507990
04723	0	60100	0	05176	STO CIL00		F2508000
04724	-0	53400	1	05173	LXD BBOX,1		F2508010
04725	1	00004	1	04726	TXI OP24,1,4		F2508020
04726	-0	63400	1	05173 OP24	SXD BBOX,1		F2508030
04727	0	07400	4	04345	TSX CIT,4		F2508040
04730	0	50000	0	05044	CLA L(STO)		F2508050
04731	0	60100	0	05177	STO CIL01		F2508060
04732	0	50000	0	05075	CLA L3DEC		F2508070

04733	0	60100	0	05201	STO CIL03		F2508080
04734	0	50000	0	07620	CLA OR000+26		F2508090
04735	-0	32000	0	05104	ANA 6ONES		F2508100
04736	0	60100	0	05200	STO CIL02		F2508110
04737	0	07400	4	04345	TSX CIT,4		F2508120
04740	0	02000	0	00000	RETURN TRA 0	ADDRESS MODIFIED.	F2508130
*****F2508140							
OP3 TESTS FOR VARIABLE NS AND IF CONSTANT COMPILES A							
CLA L(N2-N1), OR IF VARIABLE CLA L(N2)....SUBL(N1).							
04741	-0	63400	4	05040	OP3 SXD EROP3,4		F2508150
04742	0	50000	2	01076	CLA DOTAGZ,2	ARE ALL	F2508160
04743	0	77100	0	00017	ARS 15	N PARAMETERS	F2508170
04744	-0	32000	0	05076	ANA L(7)	CONSTANT.	F2508180
04745	-0	10000	0	04766	TNZ OP31	NO, OP31.	F2508190
04746	0	50000	2	01101	CLA DOTAGZ+3,2	YES,	F2508200
04747	0	40200	2	01100	SUB DOTAGZ+2,2	FORM	F2508210
04750	0	76700	0	00022	ALS 18	N2-N1.	F2508220
04751	0	07400	4	04601	TSX FIXCON,4	OBTAIN FIXCON SYMBOL	F2508230
04752	0	73400	4	00000	PAX 0,4	COMPILE	F2508240
04753	-0	32000	0	05104	ANA 6ONES	CLA	F2508250
04754	0	60100	0	05200	STO CIL02	L(N2-N1)	F2508260
04755	-0	75400	4	00000	PXD 0,4	AND	F2508270
04756	0	60100	0	05201	STO CIL03	RETURN	F2508280
04757	0	50000	0	05053	CLA L(CLA)	TO	F2508290
04760	0	60100	0	05177	STO CIL01	THE	F2508300
04761	0	50000	0	05133	CLA L(0)	CALLER.	F2508310
04762	0	60100	0	05176	STO CIL00	ZERO LOCATION.	F2508320
04763	0	07400	4	04345	TSX CIT,4		F2508330
04764	-0	53400	4	05040	LXD EROP3,4		F2508340
04765	0	02000	4	00001	TRA 1,4		F2508350
04766	0	77100	0	00001	OP31 ARS 1		F2508360
04767	0	76000	0	00001	LBT		F2508370
04770	0	02000	0	04776	TRA OP32		F2508380
04771	0	50000	2	01101	CLA DOTAGZ+3,2	N2 VARIABLE,	F2508390
04772	0	60100	0	05200	STO CIL02	COMPILE	F2508400
04773	0	50000	0	05133	CLA L(0)	CLA L(N2).	F2508410
04774	0	60100	0	05201	STO CIL03		F2508420
04775	0	02000	0	05006	TRA OP33		F2508430
04776	0	50000	2	01101	OP32 CLA DOTAGZ+3,2		F2508440
04777	0	76700	0	00022	ALS 18		F2508450
05000	0	07400	4	04601	TSX FIXCON,4		F2508460
05001	0	73400	4	00000	PAX 0,4		F2508470
05002	-0	32000	0	05104	ANA 6ONES		F2508480
05003	0	60100	0	05200	STO CIL02		F2508490
05004	-0	75400	4	00000	PXD 0,4		F2508500
05005	0	60100	0	05201	STO CIL03		F2508510
05006	0	50000	0	05133	OP33 CLA L(0)		F2508520
05007	0	60100	0	05176	STO CIL00		F2508530
05010	0	50000	0	05053	CLA L(CLA)		F2508540
05011	0	60100	0	05177	STO CIL01		F2508550
05012	0	07400	4	04345	TSX CIT,4		F2508560
05013	0	50000	2	01076	CLA DOTAGZ,2		F2508570
05014	0	77100	0	00021	ARS 17		F2508580
05015	0	76000	0	00001	LBT		F2508590
							F2508600
							F2508610

05016	0	02000	0	05024	TRA	OP34			F2508620
05017	0	50000	2	01100	CLA	DOTAGZ+2,2		N115 VARIABLE,	F2508630
05020	0	60100	0	05200	STO	CIL02		PREPARE TO	F2508640
05021	0	50000	0	05133	CLA	L(0)		COMPILE	F2508650
05022	0	60100	0	05201	STO	CIL03		SUBL(N1).	F2508660
05023	0	02000	0	05033	TRA	OP35			F2508670
05024	0	50000	2	01100	CLA	DOTAGZ+2,2	OP34	N1 CONSTANT,	F2508680
05025	0	76700	0	00022	ALS	18		OBTAIN	F2508690
05026	0	07400	4	04601	TSX	FIXCON,4		FIXCON SYMBOL	F2508700
05027	0	73400	4	00000	PAX	0,4		FOR N1	F2508710
05030	-0	32000	0	05104	ANA	6ONES		AND PREPARE	F2508720
05031	0	60100	0	05200	STO	CIL02		TO COMPILE	F2508730
05032	-0	63400	4	05201	SXD	CIL03,4		SUB L(N1).	F2508740
05033	0	50000	0	05055	CLA	L(SUB)	OP35	COMPILE	F2508750
05034	0	60100	0	05177	STO	CIL01		SUB	F2508760
05035	0	07400	4	04345	TSX	CIT,4		L(N1)	F2508770
05036	-0	53400	4	05040	LXD	EROP3,4			F2508780
05037	0	02000	4	00001	TRA	1,4			F2508790
05040	0	00000	0	00000	EROP3				F2508800
05041	+000000000100				EROP	OCT 100			F2508810
*****									F2508820
05042	636731000000	L(ITX1)	BCD	1TX1000					F2508830
05043	476724000000	L(PXD)	BCD	1PXD000					F2508840
05044	626346000000	L(STO)	BCD	1STO000					F2508850
05045	626724000000	L(SXD)	BCD	1SXD000					F2508860
05046	633167000000	L(ITX)	BCD	1ITX000					F2508870
05047	636743000000	L(TXL)	BCD	1TXL000					F2508880
05050	242524000000	L(DEB)	BCD	1DEB000					F2508890
05051	436724000000	L(LXD)	BCD	1LXD000					F2508900
05052	626324000000	L(STD)	BCD	1STD000					F2508910
05053	234321000000	L(CLA)	BCD	1CLA000					F2508920
05054	212424000000	L(ADD)	BCD	1ADD000					F2508930
05055	626422000000	L(SUB)	BCD	1SUB000					F2508940
05056	226262000000	L(BSS)	BCD	1BSS000					F2508950
05057	0 00000 0 00702	LMXDTG		450					F2508960
05060	+000000000400	MAXLOC	OCT	400					F2508970
05061	+000001000000	L1DEC	OCT	1000000					F2508980
05062	+000000002664	DRADS1	OCT	2664					F2508990
05063	0 00000 0 00314	DRADS2		204					F2509000
05064	0 00000 0 00002	DRADS3		2					F2509010
05065	0 00000 0 00312	AD202		202					F2509020
05066	0 00000 0 00021	L(17)		17					F2509030
05067	0 00000 0 07566	L(OR0)		OR000					F2509040
05070	0 00000 0 00000	ESTORE	HTR	0					F2509050
05071	+077777077777	NOPRET	OCT	077777077777					F2509060
05072	+000000001750	ABDRMA	DEC	1000					F2509070
05073	+000000001750	BLKSZE	DEC	1000					F2509080
05074	+000000077776	MINUS1	OCT	77776					F2509090
05075	+000003000000	L3DEC	OCT	000003000000					F2509100
05076	0 00000 0 00007	L(7)		7					F2509110
05077	+170000000000	BCD15	OCT	170000000000					F2509120
05100	+060000000002	BCD0	OCT	060000000002					F2509130
05101	+020000000000	BCD2	OCT	020000000000					F2509140
05102	-200000000000	BIT01	OCT	600000000000					F2509150



```

05103 -300000077777 T1MSK OCT 700000077777
05104 -370000000000 6ONES OCT 770000000000
05105 +007777000000 TETMSK OCT 007777000000
05106 0 00000 0 00006 L(6) 6
05107 0 00000 0 00030 L(24) 24
05110 0 00000 0 00010 L(8) 8
05111 +000000000010 L(K1) OCT 10
05112 +000004000000 L4DEC OCT 000004000000
05113 0 00000 0 03636 INST20 ADTGA
05114 0 00000 0 02646 INST22 MXTGA
05115 0 00000 0 05673 INST24 RTX160
05116 0 00000 0 05716 INST26 RTX184
05117 0 00000 0 06204 INST30 RTX264
05120 0 00000 0 06065 INST32 RTX226
05121 0 00000 0 01240 LMXTG 672
05122 0 00000 0 00310 LMXTGA 200
05123 +377777777777 ALLONE OCT 377777777777
05124 0 00000 0 00144 LZEKMX 100
05125 0 00000 0 00620 LADMX 400
05126 0 00000 0 00001 L(1) 1
05127 0 00000 0 00002 L(2) 2
05130 0 00000 0 00004 L(4) 4
05131 0 00000 0 00003 L(3) 3
05132 0 00000 0 00005 L(5) 5
05133 0 00000 0 00000 L(0) 0
05134 0 00000 0 00012 L(10) 10
05135 0 00000 0 00020 L(16) 16
05136 2 00000 0 00000 BIT1 PTW 0
05137 1 00000 0 00000 BIT2 PON 0
05140 +002000000000 BIT8 OCT 002000000000
05141 +000000077777 ADMSK OCT 77777
05142 +077777000000 DECMSK OCT 077777000000
05143 0 00000 0 00000 SMSK
05144 +000000000760 SMSK1 OCT 760
05145 +000000000774 SMSK2 OCT 774
05146 +000000000763 SMSK3 OCT 763
05147 +000000000773 SMSK4 OCT 773
05150 +000000000020 BITMSK OCT 20
05151 +000000000010 OCT 10
05152 +000000074030 OPMSK OCT 74030
05153 +000000003777 11BITS OCT 3777
05154 +000000100000 BIT20 OCT 100000
05155 -377777777777 36ONES OCT 777777777777
05156 0 53400 1 05130 INST2 LXA L(4),1
05157 0 53400 1 05127 INST3 LXA L(2),1
05160 0 02000 0 06115 INST4 TRA AC224
05161 0 02000 0 06116 INST5 TRA AC228
05162 0 00000 0 06250 INST8 AC244
05163 0 00000 0 03636 INST10 ADTGA
05164 0 00000 0 05315 INST11 AC010
05165 0 00000 0 02646 INST12 MXTGA
05166 0 02000 0 05725 INST13 TRA AC155
05167 0 07400 4 07131 INST14 TSX CIL031,4
05170 +000000000077 6ONESR OCT 77

```

```

F2509160
F2509170
F2509180
F2509190
F2509200
F2509210
F2509220
F2509230
F2509240
F2509250
F2509260
F2509270
F2509280
F2509290
F2509300
F2509310
F2509320
F2509330
F2509340
F2509350
F2509360
F2509370
F2509380
F2509390
F2509400
F2509410
F2509420
F2509430
F2509440
F2509450
F2509460
F2509470
F2509480
F2509490
F2509500
F2509510
F2509520
F2509530
F2509540
F2509550
F2509560
F2509570
F2509580
F2509590
F2509600
F2509610
F2509620
F2509630
F2509640
F2509650
F2509660
F2509670
F2509680
F2509690

```

	05171	+007777000000	6T017	OCT	007777000000	
	05172	+000000007777	24T035	OCT	7777	
A	05173	0 00000 0 00000	BBOX	HTR		
A	05174	0 00000 0 00000	E2C	HTR		
A	05175	0 00000 0 00000	E3C	HTR		
	05176		CIL00	BSS	1	
	05177		CIL01	BSS	1	
	05200		CIL02	BSS	1	
	05201		CIL03	BSS	1	
	05202		ERTGA	BSS	1	
	05203		CHEKSM	BSS	1	
	05204		TETTG	BSS	1	
	05205		SWICH2	BSS	1	
	05206		ERLXC	BSS	1	
	05207		AX	BSS	1	
	05210		RELCO	BSS	1	
	05211		WRKTGA	BSS	1	
	05212		N3X	BSS	1	
	05213		XX	BSS	1	
	05214		AD1	BSS	1	
	05215		AD2	BSS	1	
	05216		ADTGX	BSS	1	
	05217		WRKRXT	BSS	1	
	05220		TETTGX	BSS	1	
	05221		RTXTGX	BSS	1	
	05222		LOCIND	BSS	1	
	05223		ERORBX	BSS	1	
	05224		A	BSS	1	
	05225		B	BSS	1	
	05226		SWICH	BSS	1	
	05227		TEBBOX	BSS	1	
	05230		DOIND	BSS	1	
	05231		DOIND1	BSS	1	
	05232		TEABOX	BSS	1	
	05233		SWICH1	BSS	1	
	05234		N3IND	BSS	1	
	05235		N1N2N3	BSS	1	
	05236		LINKC	BSS	1	
	05237		XTG	BSS	1	
	05240		POSIND	BSS	1	
	05241		ER40	BSS	1	
	05242		ER41	BSS	1	
	05243		ARG	BSS	1	
	05244		VCTR	BSS	1	
	05245		ERTX01	BSS	1	
	05246		ERTX02	BSS	1	
	05247		ERTX03	BSS	1	
	05250		BLKNUM	BSS	1	
	05251		SXDTX2	BSS	1	
	05252		ORED0	BSS	1	
	05253		DEFD0	BSS	1	
	05254		NISBX	BSS	1	
	05255		TETLOC	BSS	1	

F2509700  
 F2509710  
 F2509720  
 F2509730  
 F2509740  
 F2509750  
 F2509760  
 F2509770  
 F2509780  
 F2509790  
 F2509800  
 F2509810  
 F2509820  
 F2509830  
 F2509840  
 F2509850  
 F2509860  
 F2509870  
 F2509880  
 F2509890  
 F2509900  
 F2509910  
 F2509920  
 F2509930  
 F2509940  
 F2509950  
 F2509960  
 F2509970  
 F2509980  
 F2509990  
 F2510000  
 F2510010  
 F2510020  
 F2510030  
 F2510040  
 F2510050  
 F2510060  
 F2510070  
 F2510080  
 F2510090  
 F2510100  
 F2510110  
 F2510120  
 F2510130  
 F2510140  
 F2510150  
 F2510160  
 F2510170  
 F2510180  
 F2510190  
 F2510200  
 F2510210  
 F2510220  
 \*\*\*\*\*F2510230



05337	0	50000	0	05042	RTX52	CLA L(TX1)
05340	0	60100	0	05177		STO CIL01
05341	0	53400	1	05240		LXA POSIND,1
05342	-0	53400	2	05230		LXD DOIND,2
05343	0	07400	4	06447		TSX CN3IJ,4
05344	0	60100	0	05245		STO ERTX01
05345	0	53400	1	05240		LXA POSIND,1
05346	0	50000	0	03653		CLA TAG4
05347	0	76500	0	00014		LRS 12
05350	0	76300	1	00004		LLS 4,1
05351	0	76000	0	00001		LBT
05352	0	02000	0	05376		TRA RTX66
05353	0	77100	0	00001		ARS 1
05354	0	76000	0	00001		LBT
05355	1	00002	1	05367		TXI RTX62+3,1,2
05356	1	00001	1	05357		TXI RTX61,1,1
05357	0	60100	0	05246	RTX61	STO ERTX02
05360	0	07400	4	06447		TSX CN3IJ,4
05361	0	53400	1	05240		LXA POSIND,1
05362	0	40000	0	05245		ADD ERTX01
05363	0	60100	0	05245		STO ERTX01
05364	1	00002	1	05365	RTX62	TXI RTX62+1,1,2
05365	3	00003	1	05376		TXH RTX66,1,3
05366	0	50000	0	05246		CLA ERTX02
05367	0	77100	0	00001		ARS 1
05370	0	76000	0	00001		LBT
05371	0	02000	0	05376		TRA RTX66
05372	-0	53400	2	05230		LXD DOIND,2
05373	0	07400	4	06447		TSX CN3IJ,4
05374	0	40000	0	05245		ADD ERTX01
05375	0	60100	0	05245		STO ERTX01
05376	0	50000	0	05245	RTX66	CLA ERTX01
05377	0	62100	0	05177		STA CIL01
05400	0	07400	4	06465		TSX CIL023,4
05401	0	07400	4	04345		TSX CIT,4
05402	0	02000	0	05413		TRA RTX69
05403	0	07400	4	06224	RTX68	TSX CILV,4
05404	0	50000	0	05176		CLA CIL00
05405	-0	32000	0	05141		ANA ADMASK
05406	0	07400	4	06476		TSX TGA,4
05407	0	07400	4	06625		TSX CIL23,4
05410	0	50000	0	05042		CLA L(TX1)
05411	0	60100	0	05177		STO CIL01
05412	0	07400	4	04345		TSX CIT,4
05413	0	50000	0	03653	RTX69	CLA TAG4
05414	0	12000	0	05673		TPL RTX160
05415	-0	53400	2	05230		LXD DOIND,2
05416	0	50000	2	01103		CLA DOTAGZ+5,2
05417	-0	32000	0	05136		ANA BIT1
05420	0	10000	0	05673		TZE RTX160
05421	0	50000	0	05133		CLA L(0)
05422	0	60100	0	05176		STO CIL00
05423	0	50000	0	03652		CLA TAG3
05424	-0	32000	0	05141		ANA ADMASK

COMPILE  
 TXI  
 PREPARE FOR  
 EXIT ROUTINE.  
 ROUTINE COMPUTES DECREMENT N3G  
 AND STORES IN ERTX01.

TEST FOR DUPLICATE  
 SUBSCRIPTS AND COMPUTE  
 DECREMENT FOR THEM.  
 TEST ON S1,S2, OR S3 FOR DUPES.  
 NO DUPLICATES FOR THIS SUBSCRIPT.

TEST FOR S1 OR S2 DUPES.  
 DUPES ARE 1,3 ON TRANSFER.

STORE STATUS OF ACCUMULATOR. DUPES ARE  
 1,2 OR 2,3 OR 1,2,3.  
 COMPUTE DECREMENT ADJUSTMENT  
 FOR NEXT LEFT SUBSCRIPT.  
 REPLACE ADJUSTED DECREMENT IN ERTX01.

NOT 3RD SUBSCRIPT CASE.  
 LOW ORDER BIT IS SUBSCRIPT LEFT OF DOSUB.

TEST FOR S1 DUPE.

COMPUTE DECREMENT ADJUSTMENT FOR S1  
 IN 1,2,3 AND 1,3 CASES.  
 FINAL DECREMENT ADJUSTMENT.

AFTER DECREMENT IS COMPUTED, FILL  
 OUT 4 WORDS OF  
 COMPILED INSTRUCTION.P  
 AND CONTINUE.  
 DECREMENT IS VARIABLE. ASSIGN LOCATION.  
 PREPARE VCTR LOCATION  
 FOR TGA ROUTINE.  
 PLACE LOCATION IN APPENDED TAGTAG WORD  
 AND THEN FILL OUT  
 REMAINING WORDS OF  
 COMPILED INSTRUCTION  
 COMPILER ROUTINE.  
 TEST FOR SYMBOL  
 INDICATION  
 FORVAR  
 OCCURRENCE.

NO FORVAR, CONTINUE.  
 FORVAR EXISTS.

COMPILE  
 STORE

F2510780  
 F2510790  
 F2510800  
 F2510810  
 F2510820  
 F2510830  
 F2510840  
 F2510850  
 F2510860  
 F2510870  
 F2510880  
 F2510890  
 F2510900  
 F2510910  
 F2510920  
 F2510930  
 F2510940  
 F2510950  
 F2510960  
 F2510970  
 F2510980  
 F2510990  
 F2511000  
 F2511010  
 F2511020  
 F2511030  
 F2511040  
 F2511050  
 F2511060  
 F2511070  
 F2511080  
 F2511090  
 F2511100  
 F2511110  
 F2511120  
 F2511130  
 F2511140  
 F2511150  
 F2511160  
 F2511170  
 F2511180  
 F2511190  
 F2511200  
 F2511210  
 F2511220  
 F2511230  
 F2511240  
 F2511250  
 F2511260  
 F2511270  
 F2511280  
 F2511290  
 F2511300  
 F2511310

05425	0	60100	0	05201	STO CIL03
05426	0	50000	0	05045	CLA L(SXD)
05427	0	60100	0	05177	STO CIL01
05430	-0	53400	2	05230	LXD DOIND,2
05431	0	50000	2	01077	CLA DOTAGZ+1,2
05432	0	60100	0	05200	STO CIL02
05433	0	07400	4	04345	TSX CIT,4
05434	0	02000	0	05673	TRA RTX160
05435	3	00001	2	05466	TXH RTX90,2,1
05436	-0	63400	2	05250	SXD BLKNUM,2
05437	-0	53400	2	03647	LXD TAG2,2
05440	0	07400	4	06620	TSX NBITS,4
05441	0	40000	0	05234	ADD N3IND
05442	-0	10000	0	05464	TNZ RTX80
05443	0	50000	0	03652	CLA TAG3
05444	0	77100	0	00022	ARS 18
05445	0	07400	4	04236	TSX SUBCOM,4
05446	-0	53400	2	05230	LXD DOIND,2
05447	0	53400	1	05240	LXA POSIND,1
05450	0	07400	4	06447	TSX CN3IJ,4
05451	0	60100	0	05245	STO ERTX01
05452	-0	53400	2	03647	LXD TAG2,2
05453	0	53400	1	05240	LXA POSIND,1
05454	1	00001	1	05455	TXI RTX72,1,1
05455	0	07400	4	04447	TSX CXIJ,4
05456	0	40200	0	05126	SUB L(1)
05457	0	60100	0	05246	STO ERTX02
05460	0	40000	0	05245	ADD ERTX01
05461	0	60100	0	05245	STO ERTX01
05462	0	07400	4	06513	TSX EDCB,4
05463	0	02000	0	05673	TRA RTX160
05464	0	07400	4	06546	TSX BCDE,4
05465	0	02000	0	05673	TRA RTX160
05466	3	00002	2	05525	TXH RTX110,2,2
05467	-0	63400	2	05250	SXD BLKNUM,2
05470	-0	53400	2	03647	LXD TAG2,2
05471	0	07400	4	06620	TSX NBITS,4
05472	0	40000	0	05234	ADD N3IND
05473	-0	10000	0	05523	TNZ RTX100
05474	0	50000	0	03652	CLA TAG3
05475	0	77100	0	00022	ARS 18
05476	0	07400	4	04236	TSX SUBCOM,4
05477	-0	53400	2	03647	LXD TAG2,2
05500	0	53400	1	05131	LXA L(3),1
05501	0	07400	4	04447	TSX CXIJ,4
05502	0	40200	0	05126	SUB L(1)
05503	0	60100	0	05246	STO ERTX02
05504	0	53400	1	05240	LXA POSIND,1
05505	0	07400	4	06447	TSX CN3IJ,4
05506	0	40000	0	05246	ADD ERTX02
05507	0	60100	0	05245	STO ERTX01
05510	0	50000	0	03653	CLA TAG4
05511	0	77100	0	00011	ARS 9
05512	0	76000	0	00001	LBT

INSTRUCTION  
FOR  
FORVAR OCCURRENCE.

PUT FORVAR SUBSCRIPT  
IN RELATIVE ADDRESS  
WORD FOR SXD INSTRUCTION.

BLOCK IS B,C,D OR E.

BLOCK B FIRST DETERMINE  
IF DECREMENT IS VARIABLE

DECREMENT IS VARIABLE.  
DECREMENT IS CONSTANT.

LAY OUT TAU INTO WRKSC.  
PREPARE FOR  
EXIT ROUTINE.  
COMPUTE N3G AND  
STORE IN ERTX01.

MOVE POSIND TO LEFT SUB  
AND COMPUTE XN3G  
FOR LEFT SUB WHICH IS TEST.

ADDN3G FOR THIS SUBSCRIPT  
RESULT IS TXI DECREMENT.  
COMPILE TXI SXD TIX.  
CHECK BEST TEST.  
BLOCK B IS VARIABLE.

BLOCK IS C,D, OR E.  
BLOCK IS C, PUT IN XB.  
ISOLATE  
NBITS INTO N1N2N3.

DECREMENT IS VARIABLE, TSX BCDE.  
DECREMENT IS CONSTANT.  
LAY OUT TAU  
ENTRY INTO WRKSC.  
COMPUTE  
XN3G-1  
FOR  
LEFT  
SUBSCRIPT.  
THEN COMPUTE N3G  
FOR RIGHT  
SUBSCRIPT.  
RESULT IS ERTX01.

TEST FOR DUPES.

F2511320  
F2511330  
F2511340  
F2511350  
F2511360  
F2511370  
F2511380  
F2511390  
F2511400  
F2511410  
F2511420  
F2511430  
F2511440  
F2511450  
F2511460  
F2511470  
F2511480  
F2511490  
F2511500  
F2511510  
F2511520  
F2511530  
F2511540  
F2511550  
F2511560  
F2511570  
F2511580  
F2511590  
F2511600  
F2511610  
F2511620  
F2511630  
F2511640  
F2511650  
F2511660  
F2511670  
F2511680  
F2511690  
F2511700  
F2511710  
F2511720  
F2511730  
F2511740  
F2511750  
F2511760  
F2511770  
F2511780  
F2511790  
F2511800  
F2511810  
F2511820  
F2511830  
F2511840  
F2511850

05513	0	02000	0	05521	TRA	RTX95
05514	0	53400	1	05240	LXA	POSIND,1
05515	1	00001	1	05516	TXI	RTX93,1,1
05516	0	07400	4	06447	RTX93	TSX CN3IJ,4
05517	0	40000	0	05245	ADD	ERTX01
05520	0	60100	0	05245	STO	ERTX01
05521	0	07400	4	06513	RTX95	TSX EDCB,4
05522	0	02000	0	05673	TRA	RTX160
05523	0	07400	4	06546	RTX100	TSX BCDE,4
05524	0	02000	0	05673	TRA	RTX160
05525	3	00003	2	05601	RTX110	TXH RTX140,2,3
05526	-0	63400	2	05250	SXD	BLKNUM,2
05527	-0	53400	2	03650	LXD	TAG2+1,2
05530	0	07400	4	06620	TSX	NBITS,4
05531	0	40000	0	05234	ADD	N3IND
05532	-0	10000	0	05577	TNZ	RTX130
05533	0	50000	0	03652	CLA	TAG3
05534	0	77100	0	00022	ARS	18
05535	-0	32000	0	05153	ANA	11BITS
05536	0	07400	4	04236	TSX	SUBCOM,4
05537	-0	53400	2	03650	LXD	TAG2+1,2
05540	0	53400	1	05127	LXA	L(2),1
05541	0	07400	4	04447	TSX	CXIJ,4
05542	0	60100	0	05246	STO	ERTX02
05543	0	53400	1	05240	LXA	POSIND,1
05544	-0	53400	2	05230	LXD	DOIND,2
05545	0	07400	4	06447	TSX	CN3IJ,4
05546	0	60100	0	05245	STO	ERTX01
05547	0	50000	0	03653	CLA	TAG4
05550	0	77100	0	00011	ARS	9
05551	-0	32000	0	05076	ANA	L(7)
05552	0	10000	0	05570	TZE	RTX126
05553	0	76000	0	00001	LBT	
05554	0	02000	0	05563	TRA	RTX118
05555	0	53400	1	05240	LXA	POSIND,1
05556	1	00002	1	05557	TXI	RTX114,1,2
05557	0	07400	4	06447	RTX114	TSX CN3IJ,4
05560	0	40000	0	05245	ADD	ERTX01
05561	0	60100	0	05245	STO	ERTX01
05562	0	02000	0	05570	TRA	RTX126
05563	-0	53400	2	03650	RTX118	LXD TAG2+1,2
05564	0	53400	1	05131	LXA	L(3),1
05565	0	07400	4	04447	RTX122	TSX CXIJ,4
05566	0	40000	0	05246	ADD	ERTX02
05567	0	60100	0	05246	STO	ERTX02
05570	0	50000	0	05246	RTX126	CLA ERTX02
05571	0	40200	0	05126	SUB	L(1)
05572	0	60100	0	05246	STO	ERTX02
05573	0	40000	0	05245	ADD	ERTX01
05574	0	60100	0	05245	STO	ERTX01
05575	0	07400	4	06513	TSX	EDCB,4
05576	0	02000	0	05673	TRA	RTX160
05577	0	07400	4	06546	RTX130	TSX BCDE,4
05600	0	02000	0	05673	TRA	RTX160

NO DOSUB DUPE.  
 DOSUB IS DUPE.  
 COMPUTE ADJUSTMENT  
 FOR DECREMENT AND  
 STORE IN ERTX01.  
 $3N3G(L) + 3N3G(R) + 3N3G(C) - 1$   
 COMPILE TXI SXD TIX.

BLOCK DECREMENT IS VARIABLE.

D OR E.  
 STORE BLOCK NUMBER D.  
 BLOCK D CONSIDERED.  
 ISOLATE NBITS  
 CHECK FOR VARIABLE DECREMENT.  
 DECREMENT IS VARIABLE.  
 DECREMENT IS CONSTANT.  
 SET UP TAG  
 NAME AND  
 LAY OUT TAU ENTRY.P  
 CONSIDER CENTER SUBSCRIPT  
 FOR EXIT ROUTINE.  
 COMPUTE 3N3G FOR  
 CENTER SUBSCRIPT.  
 PREPARE DOSUB SUBSCRIPT  
 FOR CN3IJROUTINE.  
 COMPUTE 3N3G FOR  
 DOSUB SUBSCRIPT.  
 TEST  
 FOR  
 DUPES.  
 NORMAL BLOCK D, NO DUPES.

XXO BLOCK D, OR OXX.  
 XOX BLOCK D.  
 SWITCH RIGHT OR LEFT POSIND.  
 COMPUTE 3N3G  
 DECREMENT ADJUSTMENT  
 FOR XOX  
 DUPES.  
 COMPUTE 3N3G  
 DECREMENT  
 ADJUSTMENT  
 FOR CENTER  
 SUBSCRIPT.  
 SUB1 AND  
 ADD ERTX01  
 AND ERTX02  
 YIELDING TXI  
 DECREMENT.  
 COMPILE TXI SXD TIX.  
 END CHECK FOR TEST TAG.  
 BLOCK D IS VARIABLE.

F2511860  
 F2511870  
 F2511880  
 F2511890  
 F2511900  
 F2511910  
 F2511920  
 F2511930  
 F2511940  
 F2511950  
 F2511960  
 F2511970  
 F2511980  
 F2511990  
 F2512000  
 F2512010  
 F2512020  
 F2512030  
 F2512040  
 F2512050  
 F2512060  
 F2512070  
 F2512080  
 F2512090  
 F2512100  
 F2512110  
 F2512120  
 F2512130  
 F2512140  
 F2512150  
 F2512160  
 F2512170  
 F2512180  
 F2512190  
 F2512200  
 F2512210  
 F2512220  
 F2512230  
 F2512240  
 F2512250  
 F2512260  
 F2512270  
 F2512280  
 F2512290  
 F2512300  
 F2512310  
 F2512320  
 F2512330  
 F2512340  
 F2512350  
 F2512360  
 F2512370  
 F2512380  
 F2512390

05601	-0	63400	2	05250	RTX140	SXD	BLKNUM,2
05602	-0	53400	2	03647		LXD	TAG2,2
05603	0	07400	4	06620		TSX	NBITS,4
05604	0	40000	0	05234		ADD	N3IND
05605	0	60100	0	05245		STO	ERTX01
05606	-0	53400	2	03650		LXD	TAG2+1,2
05607	0	07400	4	06620		TSX	NBITS,4
05610	0	40000	0	05245		ADD	ERTX01
05611	-0	10000	0	05644		TNZ	RTX154
05612	0	50000	0	03652		CLA	TAG3
05613	0	77100	0	00022		ARS	18
05614	0	07400	4	04236		TSX	SUBCOM,4
05615	-0	53400	2	03650		LXD	TAG2+1,2
05616	0	53400	1	05127		LXA	L(2),1
05617	0	07400	4	04447		TSX	CXIJ,4
05620	0	40200	0	05126		SUB	L(1)
05621	0	60100	0	05246		STO	ERTX02
05622	0	53400	1	05240		LXA	POSIND,1
05623	-0	53400	2	05230		LXD	DOIND,2
05624	0	07400	4	06447		TSX	CN3IJ,4
05625	0	40000	0	05246		ADD	ERTX02
05626	0	60100	0	05245		STO	ERTX01
05627	0	07400	4	06513		TSX	EDCB,4
05630	-0	53400	2	03647		LXD	TAG2,2
05631	0	53400	1	05240		LXA	POSIND,1
05632	1	00002	1	05633		TXI	RTX150,1,2
05633	0	07400	4	04447	RTX150	TSX	CXIJ,4
05634	0	40200	0	05126		SUB	L(1)
05635	0	60100	0	05245		STO	ERTX01
05636	0	60100	0	05246		STO	ERTX02
05637	-0	53400	4	05250		LXD	BLKNUM,4
05640	2	00002	4	05641		TIX	RTX152,4,2
05641	-0	63400	4	05250	RTX152	SXD	BLKNUM,4
05642	0	07400	4	06513		TSX	EDCB,4
05643	0	02000	0	05673		TRA	RTX160
05644	0	07400	4	06546	RTX154	TSX	BCDE,4
05645	0	07400	4	06224		TSX	CILV,4
05646	0	07400	4	06625		TSX	CIL23,4
05647	0	50000	0	05042		CLA	L(TXI)
05650	0	60100	0	05177		STO	CIL01
05651	0	07400	4	04345		TSX	CIT,4
05652	-0	53400	4	05250		LXD	BLKNUM,4
05653	2	00002	4	05653	RTX157	TIX	RTX157,4,2
05654	-0	63400	4	05250		SXD	BLKNUM,4
05655	0	07400	4	04472		TSX	CSXD,4
05656	-0	53400	4	05250		LXD	BLKNUM,4
05657	1	00002	4	05660		TXI	RTX157+5,4,2
05660	-0	63400	4	05250		SXD	BLKNUM,4
05661	-0	53400	2	03647		LXD	TAG2,2
05662	0	50000	0	05176		CLA	CIL00
05663	-0	32000	0	05141		ANA	ADMSK
05664	0	76700	0	00014		ALS	12
05665	-0	60200	2	01104		ORS	DOTAGZ+6,2
05666	0	07400	4	06224		TSX	CILV,4

BLOCK E  
 PUT N BITS FOR S1  
 PLACE N BITS PLUS  
 N3IND FOR S1  
 AND S2 INTO ERTX01  
 FOR VARIABLE DECREMENT  
 TEST. IF SUM IS NOT ZERO,  
 THEN THE DECREMENT IS VARIABLE.  
 DECREMENT IS VARIABLE.  
 CONSTANT CASE, LAY  
 OUT TAU ENTRY INTO  
 WRKSC.  
 SET UP CENTER SUBSCRIPT  
 FOR EXIT ROUTINE.  
 COMPUTE XN3G FOR CENTER.  
 STORE SN3G-1  
 IN ERTX02.  
 COMPUTE N3G  
 FOR RIGHT  
 SUBSCRIPT (DOSUB).  
 PUT FIRST TXI DECREMENT  
 IN ERTX01.  
 COMPILES FIRST  
 THREE OF BLOCK E.  
 COMPUTE XN3G FOR  
 LEFT SUBSCRIPT.  
 IN ORDER TO CMPILE 2ND  
 TXI SXD TIX IN  
 BLOCK E, THE BLOCK  
 NUMBER IS SET TO  
 APPEAR LIKE BLOCK C SO  
 THAT THE SXD LOCATION IS STORED  
 PROPERLY INTO DOTAG.  
 COMPILE 2ND TXI SXD TIX.  
  
 E IS VARIABLE. THIS TAKES  
 CARE OF FIRST 3 INSTRUCTIONS.P  
 THE REMAINING THREE ARE  
  
 NOW COMPILED.  
  
 CHANGE BLKNUM  
 FROM E  
 TO C AND  
 TSX CSXD.  
  
 PLACE LOCATION OF SXD  
 INSTRUCTION IN PROPER DOTAG ENTRY  
 AND POSITION. (LEFT SUB DO).  
  
 GENERATE AND

F2512400  
 F2512410  
 F2512420  
 F2512430  
 F2512440  
 F2512450  
 F2512460  
 F2512470  
 F2512480  
 F2512490  
 F2512500  
 F2512510  
 F2512520  
 F2512530  
 F2512540  
 F2512550  
 F2512560  
 F2512570  
 F2512580  
 F2512590  
 F2512600  
 F2512610  
 F2512620  
 F2512630  
 F2512640  
 F2512650  
 F2512660  
 F2512670  
 F2512680  
 F2512690  
 F2512700  
 F2512710  
 F2512720  
 F2512730  
 F2512740  
 F2512750  
 F2512760  
 F2512770  
 F2512780  
 F2512790  
 F2512800  
 F2512810  
 F2512820  
 F2512830  
 F2512840  
 F2512850  
 F2512860  
 F2512870  
 F2512880  
 F2512890  
 F2512900  
 F2512910  
 F2512920  
 F2512930

05667	0	07400	4	06625	TSX CIL23,4
05670	0	50000	0	05046	CLA L(ITIX)
05671	0	60100	0	05177	STO CIL01
05672	0	07400	4	04345	TSX CIT,4
05673	-0	53400	2	05230	RTX160 LXN DOIND,2
05674	0	50000	2	01106	CLA DOTAGZ+8,2
05675	-0	32000	0	05105	ANA TETMSK
05676	0	60100	0	05245	STO ERTX01
05677	0	50000	0	03652	CLA TAG3
05700	0	76700	0	00022	ALS 18
05701	-0	32000	0	05142	ANA DECMSK
05702	0	40200	0	05245	SUB ERTX01
05703	-0	10000	0	05706	TNZ RTX164
05704	0	50000	0	05237	CLA XTG
05705	0	60100	0	05220	STO TETTGX
05706	0	02000	0	05307	RTX164 TRA RTX06
05707	0	50000	0	05116	RTX180 CLA INST26
05710	0	62100	0	05414	STA RTX69+1
05711	0	53400	4	05125	LXA LADM,4
05712	1	00004	4	05713	TXI RTX180+4,4,4
05713	-0	63400	4	05237	SXD XTG,4
05714	0	50000	0	05113	CLA INST20
05715	0	62100	0	06507	STA TGA8
05716	0	07400	4	04516	RTX184 TSX ADTGSE,4
05717	0	02000	0	05745	TRA RTX192
05720	-0	75400	2	00000	PXD 0,2
05721	0	77100	0	00022	ARS 18
05722	0	60100	0	05240	STO POSIND
05723	0	50000	0	03653	CLA TAG4
05724	0	77100	0	00025	ARS 21
05725	3	00002	2	05732	TXH RTX190,2,2
05726	-3	00001	2	05730	TXL RTX188,2,1
05727	0	77100	0	00002	ARS 2
05730	-0	32000	0	05131	RTX188 ANA L(3)
05731	-0	10000	0	05716	TNZ RTX184
05732	0	50000	0	05234	RTX190 CLA N3IND
05733	0	10000	0	05320	TZE RTX020
05734	0	07400	4	06224	TSX CILV,4
05735	0	50000	0	05176	CLA CIL00
05736	-0	32000	0	05141	ANA ADMSK
05737	0	07400	4	06476	TSX TGA,4
05740	0	07400	4	06625	TSX CIL23,4
05741	0	50000	0	05042	CLA L(ITIX)
05742	0	60100	0	05177	STO CIL01
05743	0	07400	4	04345	TSX CIT,4
05744	0	02000	0	05716	TRA RTX184
05745	0	50000	0	05115	RTX192 CLA INST24
05746	0	62100	0	05414	STA RTX69+1
05747	0	50000	0	05114	CLA INST22
05750	0	62100	0	06507	STA TGA8
05751	-0	53400	1	05220	RTX195 LXN TETTGX,1
05752	3	00000	1	05770	TXH RTX197,1,0
05753	-0	53400	2	05230	RTX196 LXN DOIND,2
05754	0	50000	2	01076	CLA DOTAGZ,2

COMPILE REMAINING INSTRC.

PUT INTO BUFFER.  
FINDING S.C. WHICH  
HAS AN S THAT IS THE TEST.

TEST NAME.  
COMPARE TAG NAME  
WITH BEST TEST  
OF CURRENT DO.  
IF THIS TAG IS  
BEST TEST,  
STORE ITS INDEX  
IN TETTGX.  
GO TO FIND FOR NEXT TAG.  
RTX184 LOCATION.  
RESET AT END OF ROUTINE.  
PREPARE FOR ADTAG TXI.

ADTGA LOCATION.

SEARCH FOR ADTAG.  
END OF TABLE, START TX PHASE.  
ENTRY FOUND, CONTINUE ADTG CYCLE.  
POSIND IN ADDRESS.

LOOK AT  
CARRY BITS.  
S1, BLOCK A.  
S3  
S2

CARRY T1 OR T2 BLOCK F.

DECREMENT IS CONSTANT.  
DECREMENT IS VARIABLE.  
INSTRUCTION IS COMPILED  
AND ENTRY IS MADE  
IN APPENDED DRM TG WORD.

COMPILE  
TXI AND PUT  
IN CIB.  
GET NEW ADTAG.  
RESET MODIFIED  
ADDRESSES FOR  
TXI CYCLE.

DETERMINE IF THIS DO HAS A TEST.  
THIS DO HAS A TEST.  
THIS DO HAS NO TEST. THIS INFORMATION  
IS ENTERED IN A DRUM TABLE.

F2512940  
F2512950  
F2512960  
F2512970  
F2512980  
F2512990  
F2513000  
F2513010  
F2513020  
F2513030  
F2513040  
F2513050  
F2513060  
F2513070  
F2513080  
F2513090  
F2513100  
F2513110  
F2513120  
F2513130  
F2513140  
F2513150  
F2513160  
F2513170  
F2513180  
F2513190  
F2513200  
F2513210  
F2513220  
F2513230  
F2513240  
F2513250  
F2513260  
F2513270  
F2513280  
F2513290  
F2513300  
F2513310  
F2513320  
F2513330  
F2513340  
F2513350  
F2513360  
F2513370  
F2513380  
F2513390  
F2513400  
F2513410  
F2513420  
F2513430  
F2513440  
F2513450  
F2513460  
F2513470



05755	0	76700	0	00004	ALS 4
05756	0	77100	0	00004	ARS 4
05757	0	60100	0	05251	STO SXDTXZ
05760	0	76600	0	00301	WRS 193
05761	0	46000	0	05064	LDA DRADS3
05762	0	70000	0	05251	CPY SXDTXZ
05763	0	70000	0	05251	CPY SXDTXZ
05764	0	50000	0	05064	CLA DRADS3
05765	0	40000	0	05127	ADD L(2)
05766	0	60100	0	05064	STO DRADS3
05767	0	02000	0	06222	TRA RTX280
05770	0	76000	0	00140	PSE 096
05771	0	07400	4	04213	TSX TGFM,4
05772	0	07400	4	04204	TSX ISC,4
05773	0	07400	4	00004	TSX DIAG,4
05774	-0	75400	2	00000	PXD Q,2
05775	0	77100	0	00022	ARS 18
05776	0	60100	0	05240	STO POSIND
05777	0	07400	4	06224	TSX CILV,4
06000	-0	53400	2	05230	LXD DOIND,2
06001	0	07400	4	06620	TSX NBITS,4
06002	0	60100	0	05235	STO N1N2N3
06003	0	50000	2	01101	CLA DOTAGZ+3,2
06004	-0	32000	0	05104	ANA 6ONES
06005	-0	10000	0	06045	TNZ RTX210
06006	0	53400	1	05240	LXA POSIND,1
06007	-2	00001	1	06015	RTX198 TNX RTX200,1,1
06010	0	50000	0	03653	CLA TAG4
06011	-0	32000	1	05152	ANA BITMSK+2,1
06012	0	60100	0	05254	STO N1SBX
06013	0	07400	4	04566	TSX N1S02,4
06014	-0	10000	0	06045	TNZ RTX210
06015	-0	53400	1	03652	RTX200 LXD TAG3,1
06016	3	00000	1	06021	TXH RTX201,1,0
06017	0	07400	4	04230	TSX ENTR,4
06020	0	02000	0	06024	TRA RTX202
06021	0	50000	0	03652	RTX201 CLA TAG3
06022	0	77100	0	00022	ARS 18
06023	0	07400	4	04236	TSX SUBCOM,4
06024	-0	53400	2	05230	RTX202 LXD DOIND,2
06025	0	53400	1	05240	LXA POSIND,1
06026	0	50000	2	01101	CLA DOTAGZ+3,2
06027	0	07400	4	04451	TSX CXIJ+2,4
06030	-2	00001	1	06033	TNX RTX204,1,1
06031	0	07400	4	04410	TSX TELC+2,4
06032	0	50000	0	05245	CLA ERTX01
06033	0	60100	0	05177	RTX204 STO CIL01
06034	-0	50000	0	05047	CAL L(TXL)
06035	-0	60200	0	05177	ORS CIL01
06036	0	07400	4	06634	TSX CILNAM,4
06037	0	50000	0	05224	CLA A
06040	0	40000	0	05061	ADD L1DEC
06041	0	60100	0	05200	STO CIL02
06042	0	07400	4	04345	TSX CIT,4

ELIMINATE BITS  
INSERTED BY DOGS.

ENTER  
DOTAG  
WORD  
ONE  
INTO  
DOCAR  
DRUM  
TABLE.

CLEAR SENSE LIGHTS.  
FILL OUT TAG WORDS.  
FIND DOSUB.  
SC NOT MODIFIED BY CURRENT DO.  
FORM  
POSITION  
INDICATOR.  
OBTAIN LOCATION FOR TEST,  
ISOLATE  
NBITS.

N2 IS VARIABLE

IS POSITION S3.  
CHECK FOR DORC

N1 BIT.

TXL VARIABLE DECREMENT.

NOT NORMAL TAG, LAY OUT SIMULATED  
TAU ENTRY INTO WRKSC.  
PREPARE FOR  
SUBCOM ROUTINE.  
LAY OUT TAU ENTRY.  
PREPARE FOR AND CALL CXIJ  
ROUTINE TO COMPUTE XGN3.  
PTCH06 CALLS TELC ROUTINE

COMPUTES LOAD VALUE FOR  
DEC, STORES IN ERTX01.  
FINAL TXL DECREMENT.

ENTER TAG NAME IN CIL03.  
ALPHA PLUS ONE IS  
ENTERED AS THE SYMBOLIC  
ADDRESS.  
ENTER TXL IN BUFFER.

F2513480  
F2513490  
F2513500  
F2513510  
F2513520  
F2513530  
F2513540  
F2513550  
F2513560  
F2513570  
F2513580  
F2513590  
F2513600  
F2513610  
F2513620  
F2513630  
F2513640  
F2513650  
F2513660  
F2513670  
F2513680  
F2513690  
F2513700  
F2513710  
F2513720  
F2513730  
F2513740  
F2513750  
F2513760  
F2513770  
F2513780  
F2513790  
F2513800  
F2513810  
F2513820  
F2513830  
F2513840  
F2513850  
F2513860  
F2513870  
F2513880  
F2513890  
F2513900  
F2513910  
F2513920  
F2513930  
F2513940  
F2513950  
F2513960  
F2513970  
F2513980  
F2513990  
F2514000  
F2514010

06043	0	50000	0	05133	CLA L(0)
06044	0	02000	0	06055	TRA RTX214
06045	0	50000	0	05047	RTX210 CLA L(TXL)
06046	0	60100	0	05177	STO CIL01
06047	0	07400	4	06634	TSX CILNAM,4
06050	0	50000	0	05224	CLA A
06051	0	40000	0	05061	ADD LIDEC
06052	0	60100	0	05200	STO CIL02
06053	0	07400	4	04345	TSX CIT,4
06054	0	50000	0	05154	CLA BIT20
06055	-0	53400	2	05230	RTX214 LXD DOIND,2
06056	-0	60200	2	01106	ORS DOTAGZ+8,2
06057	0	50000	0	05176	CLA CIL00
06060	0	76700	0	00030	ALS 24
06061	-0	60200	2	01104	ORS DOTAGZ+6,2
06062	0	76000	0	00141	PSE 097
06063	-0	53400	1	05221	RTX222 LXD RTXTGX,1
06064	-0	63400	1	05237	SXD XTG,1
06065	0	07400	4	04162	RTX226 TSX FIND,4
06066	0	02000	0	06201	TRA RTX260
06067	-0	63400	1	05237	SXD XTG,1
06070	0	07400	4	04373	RTX228 TSX SCLMN1,4
06071	0	40200	0	05230	SUB DOIND
06072	0	10000	0	06144	TZE RTX234
06073	-0	53400	2	03652	LXD TAG3,2
06074	3	00000	2	06103	TXH RTX229,2,0
06075	0	50000	0	03652	CLA TAG3
06076	0	77100	0	00013	ARS 11
06077	0	76000	0	00001	LBT
06100	0	02000	0	06110	TRA RTX229+5
06101	0	50000	0	03652	CLA TAG3
06102	0	02000	0	06105	TRA RTX229+2
06103	0	50000	0	03652	RTX229 CLA TAG3
06104	0	77100	0	00022	ARS 18
06105	-0	32000	0	05153	ANA 11BITS
06106	0	07400	4	04236	TSX SUBCOM,4
06107	0	02000	0	06111	TRA RTX230
06110	0	07400	4	04230	TSX ENTR,4
06111	0	53400	4	05240	RTX230 LXA POSIND,4
06112	2	00001	4	06114	TIX CLA,4,1
06113	0	02000	0	06130	TRA RTX232
06114	0	50000	0	03653	CLA CLA TAG4
06115	0	77100	0	00001	ARS 1
06116	-0	50100	0	03653	ORA TAG4
06117	-3	00001	4	06122	TXL ARS,4,1
06120	0	77100	0	00027	ARS 23
06121	0	02000	0	06123	TRA LBT
06122	0	77100	0	00025	ARS ARS 21
06123	0	76000	0	00001	LBT LBT
06124	0	02000	0	06130	TRA RTX232
06125	0	50000	0	05220	CLA TETTGX
06126	0	40200	0	05237	SUB XTG
06127	-0	10000	0	06200	TNZ RTX254
06130	0	50000	0	05046	RTX232 CLA L(TIX)

ELIMINATE VARIABLE INDICATOR BIT.	F2514020
COMPILE INSTRUCTION FOR VARIABLE DECREMENT.	F2514030
ENTER TAG NAME.	F2514040
ALPHA PLUS ONE IS	F2514050
ENTERED AS THE	F2514060
SYMBOLIC ADDRESS.	F2514070
ENTER COMPILED TXL IN BUFFER.	F2514080
TEST VARIABLE INDICATOR.	F2514090
ENTERONE IN BIT 20 IF	F2514100
VARIABLE DECREMENT.	F2514110
STORE LOCATION	F2514120
OF	F2514130
TEST.	F2514140
SET SENSE INDICATOR SO	F2514150
START SCAN FOR TIXING.	F2514160
FIND VALID TAG. FILL TAG WORDS.	F2514170
END OF DO.	F2514180
PRESERVE X OF TAG UNDER CONSDERATION.	F2514190
COMPARE LARGEST S INDES	F2514200
WITH INDEX OF THE DO.	F2514210
DO IS OUTER, OBTAIN TAG.	F2514220
CURRENT TAG VALID, FILL OUT WRKSC.	F2514230
NEW TAG, DETERMINE	F2514240
IF TAU ENTRY	F2514250
EXISTS.	F2514260
NO,TSX ENTR.	F2514270
YES, TSX	F2514280
SUBCOM.	F2514290
CURRENT TAG	F2514300
VALID.	F2514310
FILL OUT	F2514320
WRKSC AND	F2514330
CONTINUE.	F2514340
ARTIFICIAL WRKSC ENTRY.	F2514350
MOVE RIGHT ONE POSITION.	F2514360
POSITION IS RIGHT, IGNORE CARRY.	F2514370
POSITION IS LEFT OR CENTER,	F2514380
OR TYPE 1 AND 2	F2514390
CARRY BITS FOR LEFT	F2514400
AND CENTER POSITIONS.	F2514410
S2 CARRY BIT IN POSITION 35.	F2514420
S3 CARRY BIT IN POSITION 35	F2514430
TEST FOR DOSUB CARRY BIT.	F2514440
NO CARRY, CONTINUE.	F2514450
CARRY, SEE IF THIS	F2514460
TAG IS BEST TEST.	F2514470
NO, GET NEXT TAG.	F2514480
COMPILE TIX INSTRUCTION.	F2514490
	F2514500
	F2514510
	F2514520
	F2514530
	F2514540
	F2514550

06131	0	60100	0	05177	STO CIL01
06132	0	50000	0	05235	CLA N1N2N3
06133	0	10000	0	06147	TZE RTX238
06134	-0	76000	0	00141	MSE 097
06135	0	76100	0	00000	NOP
06136	0	07400	4	06224	TSX CILV,4
06137	0	07400	4	06625	TSX CIL23,4
06140	0	50000	0	05176	CLA CIL00
06141	-0	32000	0	05141	ANA ADM5K
06142	0	07400	4	06477	TSX TGAT,4
06143	0	02000	0	06177	TRA RTX250
06144	0	50000	0	05050	RTX234 CLA L(DED)
06145	0	60100	0	05177	STO CIL01
06146	0	02000	0	06171	TRA RTX242
06147	0	53400	1	05240	RTX238 LXA POSIND,1
06150	-0	53400	2	05230	LXD DOIND,2
06151	0	07400	4	04447	TSX CXIJ,4
06152	0	60100	0	05245	STO ERTX01
06153	0	56000	0	03653	LDQ TAG4
06154	0	76300	1	00033	LLS 27,1
06155	0	76000	0	00001	LBT
06156	0	02000	0	06167	TRA RTX240
06157	1	00001	1	06160	RTX239 TXI RTX239+1,1,1
06160	0	56000	0	03653	LDQ TAG4
06161	0	76300	1	00033	LLS 27,1
06162	0	76000	0	00001	LBT
06163	0	02000	0	06157	TRA RTX239
06164	0	07400	4	04447	TSX CXIJ,4
06165	0	40000	0	05245	ADD ERTX01
06166	0	60100	0	05245	STO ERTX01
06167	0	50000	0	05245	RTX240 CLA ERTX01
06170	0	62100	0	05177	STA CIL01
06171	-0	76000	0	00141	RTX242 MSE 097
06172	0	02000	0	06176	TRA RTX246
06173	0	07400	4	06224	TSX CILV,4
06174	0	07400	4	06625	TSX CIL23,4
06175	0	02000	0	06177	TRA RTX250
06176	0	07400	4	06465	RTX246 TSX CIL023,4
06177	0	07400	4	04345	RTX250 TSX CIT,4
06200	0	02000	0	06065	RTX254 TRA RTX226
06201	0	53400	4	05125	RTX260 LXA LADMX,4
06202	1	00004	4	06203	TXI RTX260+2,4,4
06203	-0	63400	4	05237	SXD XTG,4
06204	0	07400	4	04516	RTX264 TSX ADTGSE,4
06205	0	02000	0	06216	TRA RTX270
06206	-0	75400	2	00000	PXD 0,2
06207	0	77100	0	00022	ARS 18
06210	0	60100	0	05240	STO POSIND
06211	0	50000	0	05117	CLA INST30
06212	0	62100	0	06200	STA RTX254
06213	0	50000	0	05113	CLA INST20
06214	0	62100	0	06507	STA TGA8
06215	0	02000	0	06070	TRA RTX228
06216	0	50000	0	05120	RTX270 CLA INST32

TEST FOR VARIABLE DECREMENT.  
 DECREMENT IS CONSTANT.  
 DECREMENT IS VARIABLE8 TURN OFF  
 LIGHT INDICATION FIRST  
 TIX AFTER TXL AND ASSIGN  
 LOCATION.  
 WHEN DECREMENT IS VARIABLE, LOCATION  
 MUST BE STORED IN TGA WORD  
 FOR SXD ADDRESS IS OBJECT TIME.  
 NOW PERFORM COMPILING.  
 COMPILE OP WHICH INDICATES  
 SC IS DEAD.  
 ASSIGN LOCATION IF NECESSARY.  
 DECREMENT IS CONSTANT.  
 TEST FOR DUPLICATES  
 AND COMPUTE ACCORDINGLY.  
 XN3G IN ERTX01.  
 TEST  
 FOR  
 DUPES.  
 NO DUPES.  
 DUPES EXIST  
 TEST DUPE  
 BITS OF POSITIONS  
 TO THE LEFT OF DOSUB  
 UNTIL THAT POSITION IS  
 IN XA, THEN CALLCXIJ  
 AND COMPUTE AND ADD  
 DECREMENT ADJUSTMENT.  
 PUT COMPUTED DE EREMTN  
 IN CIL01 WORD.  
 A LOC MUST BE ASSIGNED IF  
  
 THIS IS FIRST TIX AFTER  
 TEST.

COMPILE INST.  
 RETURN FOR NEXT TG.  
 START DRMTG SEARCH AND

COMPILING  
 FIND VALID TAG, FILL OUT TAG WDS.  
 END OF TABLE  
 STORE POSITION  
 OF DOSUB  
 IN POSIND.  
 MODIFY TGTG  
 TIX COMPILING  
 ROUTINE TO

AND EXECUTE.  
 ADTG PORTION FINISHED.

F2514560  
 F2514570  
 F2514580  
 F2514590  
 F2514600  
 F2514610  
 F2514620  
 F2514630  
 F2514640  
 F2514650  
 F2514660  
 F2514670  
 F2514680  
 F2514690  
 F2514700  
 F2514710  
 F2514720  
 F2514730  
 F2514740  
 F2514750  
 F2514760  
 F2514770  
 F2514780  
 F2514790  
 F2514800  
 F2514810  
 F2514820  
 F2514830  
 F2514840  
 F2514850  
 F2514860  
 F2514870  
 F2514880  
 F2514890  
 F2514900  
 F2514910  
 F2514920  
 F2514930  
 F2514940  
 F2514950  
 F2514960  
 F2514970  
 F2514980  
 F2514990  
 F2515000  
 F2515010  
 F2515020  
 F2515030  
 F2515040  
 F2515050  
 F2515060  
 F2515070  
 F2515080  
 F2515090

06217	0	62100	0	06200	STA RTX254	REMODIFY TIX COMPILING	F2515100
06220	0	50000	0	05114	CLA INST22	ROUTINE FOR TGTGS.	F2515110
06221	0	62100	0	06507	STA TGA8	END OF BETA CYCLE8 RETURN TO 1 PLUS	F2515120
06222	-0	53400	4	05325	LXD RTX024,4	LOCATION OF THE INSTRUCTION	F2515130
06223	0	02000	4	00001	TRA 1,4	CALLING RTX.	F2515140
					*****		F2515150
					CILV IS CALLED WHEN AN INSTRUCTION NUMBER IS NEEDED FOR A COMF		F2515160
					PILED BETA STATE INSTRUCTION.		F2515170
06224	0	50000	0	05244	CILV CLA VCTR	THIS ROUTINE UPDATES	F2515180
06225	0	60100	0	05176	STO CIL00	VCTR AND	F2515190
06226	0	40000	0	05110	ADD L(8)	STORE IT INTO CIL00	F2515200
06227	0	60100	0	05244	STO VCTR	IT IS CALLED WHEN	F2515210
06230	-0	32000	0	05141	ANA ADMSK	WE NEED A LOCATION	F2515220
06231	0	40200	0	05060	SUB MAXLOC	FOR A COMPILED	F2515230
06232	0	10000	0	06234	TZE CILV1	INSTRUCTION.	F2515240
06233	0	02000	4	00001	TRA 1,4		F2515250
06234	0	07400	4	00004	CILV1 TSX DIAG,4	TOO MANY INSTRUCTION NUMBERS.	F2515260
					*****		F2515270
					N3BIT PLACES THE VARIABLE N3 BIT OF A DO IN THE WORK N3IND.		F2515280
06235	-0	53400	2	05230	N3BIT LXD DOIND,2	THIS ROUTINE ISOLATES	F2515290
06236	0	50000	2	01076	CLA DOTAGZ,2	THE N3 BIT SO THAT	F2515300
06237	0	77100	0	00017	ARS 15	IT CAN BE EASILY TESTED.	F2515310
06240	-0	32000	0	05126	ANA L(1)		F2515320
06241	0	60100	0	05234	STO N3IND		F2515330
06242	0	02000	4	000D1	TRA 1,4	RETURN	F2515340
					TETG DETERMINES FOR WHICH DOS A GIVEN TAG IS A TEST. THIS		F2515350
					INFORMATION IS RECORDED IN TAG4.		F2515360
06243	0	50000	0	03652	TETG CLA TAG3	ISOLATE	F2515370
06244	-0	32000	0	05141	ANA ADMSK	TAG NAME.	F2515380
06245	0	60100	0	05241	STO ER40		F2515390
06246	0	50000	0	03653	CLA TAG4	ISOLATE DUPES INDICATORS	F2515400
06247	0	77100	0	00011	ARS 9		F2515410
06250	-0	32000	0	05076	ANA L(7)	IF THERE ARE DUPES	F2515420
06251	0	60100	0	05242	STO ER41	THIS INSURES THAT TEST BITS	F2515430
06252	0	40200	0	05126	SUB L(1)	ARE ENTERED ONLY FOR	F2515440
06253	0	32000	0	05242	ANS ER41	RIGHTMOST DUPE.	F2515450
06254	0	53400	1	05131	LXA L(3),1		F2515460
06255	0	50000	1	03652	CLA TAG2+3,1	SELECT DOTAG WHICH	F2515470
06256	0	10000	0	06275	TZE TETG5	CONTROLS THIS	F2515480
06257	-0	73400	2	00000	PDX 0,2	SUBSCRIPT.	F2515490
06260	0	50000	2	01106	CLA DOTAGZ+8,2		F2515500
06261	-0	32000	0	05105	ANA TETMSK	ISOLATE TEST NAME	F2515510
06262	0	77100	0	00022	ARS 18	OF THIS SUBSCRIPT.	F2515520
06263	0	40200	0	05241	SUB ER40	DOES TEST NAME EQUAL TAG NAME.	F2515530
06264	-0	10000	0	06275	TNZ TETG5	NO, GO TO NEXT SUBSCRIPT.	F2515540
06265	0	56000	0	05242	LDQ ER41	TEST NAME EQUALS TAG NAME.	F2515550
06266	0	76300	1	00044	LLS 36,1	SEE IF THIS SUBSCRIPT	F2515560
06267	0	76000	0	00001	LBT	IS A LEFT DUPE.	F2515570
06270	0	02000	0	06272	TRA TETG3	NOT A LEFT DUPE, ENTER TEST BIT.	F2515580
06271	0	02000	0	06275	TRA TETG5	LEFT DUPE, IGNORE.	F2515590
06272	0	50000	0	05136	TETG3 CLA BIT1	ENTER TEST BIT	F2515600
06273	0	77100	1	00012	ARS 10,1	FOR THIS	F2515610
06274	-0	60200	0	03653	ORS TAG4	SUBSCRIPT.	F2515620
06275	2	00001	1	06255	TETG5 TIX TETG+10,1,1	DEAL WITH NEXT SUBSCRIPT.	F2515630

```

06276 0 02000 4 00001 TRA 1,4 F2515640
*****F2515650
PRES DETERMINES THE TXI BLOCK NUMBER FOR A GIVEN TAG AND PUTS F2515660
IT IN INDEX REGISTER B. F2515670
06277 0 50000 0 03653 PRES CLA TAG4 FIRST THE TEST F2515680
06300 0 76500 0 00032 LRS 26 BITS ARE ISOLATED F2515690
06301 0 76700 0 00041 ALS 33 AND STORED. F2515700
06302 0 60100 0 05241 STO ER40 TEST BITS 1,2. F2515710
06303 0 76300 0 00005 LLS 5 THEN THE GROUP NO. F2515720
06304 0 76700 0 00024 ALS 20 IS LEFT F2515730
06305 -0 50100 0 03653 ORA TAG4 IN THE MQ WHILE THE F2515740
06306 0 77100 0 00025 ARS 21 CARRY BITS ARE ORED F2515750
06307 -0 32000 0 05132 ANA L(5) AND STORED. F2515760
06310 0 60100 0 05242 STO ER41 CARRY BITS 101. F2515770
06311 0 76300 0 00005 LLS 5 THE GROUP NO. IS THEN F2515780
06312 -0 50100 0 05240 ORA POSIND SHIFTED TO BE COMBINED F2515790
06313 0 56000 0 05241 LDQ ER40 WITH THE POS. THE TEST F2515800
06314 0 76300 0 00001 LLS 1 BITS ARE SEPARATED SO THAT F2515810
06315 0 76700 0 00001 ALS 1 THEY CAN OR PROPERLY WITH F2515820
06316 0 76300 0 00002 LLS 2 CARRY BITS LT, LC, CT, CC. F2515830
06317 -0 50100 0 05242 ORA ER41 THIS RESULTS IN THE MASK F2515840
06320 0 60100 0 05243 STO ARG USED FOR TABLE SEARCH. F2515850
06321 -0 63400 4 05241 SXD ER40,4 F2515860
06322 0 53400 1 05126 LXA L(1),1 THIS BLOCK REPRESENTS F2515870
06323 1 00042 1 06324 TXI PRES10,1,34 SETS OF CALLING SEQUENCES TO F2515880
06324 -0 63400 1 06364 PRES10 SXD S3,1 SEARCH ROUTINE. MASK IS F2515890
06325 1 00012 1 06326 TXI PRES20,1,10 STORED AND BLOCK TEST F2515900
06326 0 50000 0 05144 PRES20 CLA SMSK1 INDEX DECREMENT IS STORED. F2515910
06327 0 60100 0 05143 STO SMSK FIRST 11 ENTRIES ARE F2515920
06330 0 07400 4 06354 TSX SEARCH,4 SEARCHED. THEN 12,12,4. F2515930
06331 0 50000 0 05145 CLA SMSK2 RETURN TO ROUTINE F2515940
06332 0 60100 0 05143 STO SMSK AFTER SEARCHING LAST F2515950
06333 2 00014 1 06334 TIX PRES30,1,12 BLOCK INDICATES AN ERROR. F2515960
06334 -0 63400 1 06364 PRES30 SXD S3,1 F2515970
06335 1 00014 1 06336 TXI PRES40,1,12 F2515980
06336 0 07400 4 06354 PRES40 TSX SEARCH,4 F2515990
06337 0 50000 0 05147 CLA SMSK4 F2516000
06340 0 60100 0 05143 STO SMSK F2516010
06341 2 00020 1 06342 TIX PRES50,1,16 F2516020
06342 -0 63400 1 06364 PRES50 SXD S3,1 F2516030
06343 1 00020 1 06344 TXI PRES60,1,16 F2516040
06344 0 07400 4 06354 PRES60 TSX SEARCH,4 F2516050
06345 0 50000 0 05146 CLA SMSK3 F2516060
06346 0 60100 0 05143 STO SMSK F2516070
06347 2 00006 1 06350 TIX PRES70,1,6 F2516080
06350 -0 63400 1 06364 PRES70 SXD S3,1 F2516090
06351 1 00006 1 06352 TXI PRES80,1,6 F2516100
06352 0 07400 4 06354 PRES80 TSX SEARCH,4 F2516110
06353 0 07400 4 00004 ERROR TSX DIAG,4 F2516120
*****F2516130
SEARCH IS CALLED BY PRES TO COMPARE CONSTANTS IN THE RX TABLE F2516140
AGAINST VARIOUS PERMUTATIONS OF AN ARGUMENT WORD. A MATCHING F2516150
COMPARISON MEANS THE CONSTANT WILL YIELD THE CORRECT BLOCK NUF F2516160
NUMBER. F2516170

```

06354 0 50000 1 06450 SEARCH CLA RXTA+45,1  
 06355 0 77100 0 00003 ARS 3  
 06356 0 60100 0 05217 STO WRKRXT  
 06357 0 50000 0 05243 CLA ARG  
 06360 -0 32000 0 05143 ANA SMSK  
 06361 0 40200 0 05217 SUB WRKRXT  
 06362 0 10000 0 06366 TZE S8  
 06363 2 00001 1 06364 TIX S3,1,1  
 06364 3 00000 1 06354 S3 TXH SEARCH,1  
 06365 0 02000 4 00001 TRA 1,4  
 06366 0 50000 1 06450 S8 CLA RXTA+45,1  
 06367 -0 32000 0 05076 ANA L(7)  
 06370 0 73400 2 00000 PAX 0,2  
 06371 -0 53400 4 05241 LXD ER40,4  
 06372 0 02000 4 00001 TRA 1,4  
 06373 +0000000006600 RXTA OCT 6600  
 06374 +0000000006400 OCT 6400  
 06375 +0000000006200 OCT 6200  
 06376 +0000000005600 OCT 5600  
 06377 +0000000004600 OCT 4600  
 06400 +0000000004200 OCT 4200  
 06401 +0000000003600 OCT 3600  
 06402 +0000000003400 OCT 3400  
 06403 +0000000002400 OCT 2400  
 06404 +0000000001600 OCT 1600  
 06405 +0000000005501 OCT 5501  
 06406 +0000000005400 OCT 5400  
 06407 +0000000005302 OCT 5302  
 06410 +0000000005200 OCT 5200  
 06411 +0000000004541 OCT 4541  
 06412 +0000000004501 OCT 4501  
 06413 +0000000004445 OCT 4445  
 06414 +0000000004400 OCT 4400  
 06415 +0000000001541 OCT 1541  
 06416 +0000000001501 OCT 1501  
 06417 +0000000001445 OCT 1445  
 06420 +0000000001400 OCT 1400  
 06421 +0000000001215 OCT 1215  
 06422 +0000000001200 OCT 1200  
 06423 +0000000002723 OCT 2723  
 06424 +0000000002733 OCT 2733  
 06425 +0000000002623 OCT 2623  
 06426 +0000000002633 OCT 2633  
 06427 +0000000003324 OCT 3324  
 06430 +0000000003302 OCT 3302  
 06431 +0000000003223 OCT 3223  
 06432 +0000000003200 OCT 3200  
 06433 +0000000001334 OCT 1334  
 06434 +0000000001324 OCT 1324  
 06435 +0000000001315 OCT 1315  
 06436 +0000000001302 OCT 1302  
 06437 +0000000001233 OCT 1233  
 06440 +0000000001223 OCT 1223  
 06441 +0000000002600 OCT 2600

THIS ROUTINE TAKES  
 THE ARGUMENT MASK, EDITS  
 IT AND THEN SEARCHES  
 PRESCRIBED BLOCKS OF  
 THE RX TABLE.  
 SUCCESSFUL SEARCH.  
 INDEX FOR NEXT ENTRY.  
 TEST FOR END OF BLOCK.

TABLE ENTRY CONTAINS  
 BLOCK NOS. 0-5 WHICH  
 CORRESPOND TO BLOCKS  
 A-F.

6L, 760 MASK

6C

6R

5L

4L

4R

3L

3C

2C

1L

5C, 774 MASK

5C

5R

5R

4C

4C

4C

4C

1C

1C

1C

1C

1R, 773 MASK

1R

2L

2L

2L

2L

3R

3R

3R

3R

1R

1R

1R

1R

1R

2L, 763 MASK

F2516180  
 F2516190  
 F2516200  
 F2516210  
 F2516220  
 F2516230  
 F2516240  
 F2516250  
 F2516260  
 F2516270  
 F2516280  
 F2516290  
 F2516300  
 F2516310  
 F2516320  
 F2516330  
 F2516340  
 F2516350  
 F2516360  
 F2516370  
 F2516380  
 F2516390  
 F2516400  
 F2516410  
 F2516420  
 F2516430  
 F2516440  
 F2516450  
 F2516460  
 F2516470  
 F2516480  
 F2516490  
 F2516500  
 F2516510  
 F2516520  
 F2516530  
 F2516540  
 F2516550  
 F2516560  
 F2516570  
 F2516580  
 F2516590  
 F2516600  
 F2516610  
 F2516620  
 F2516630  
 F2516640  
 F2516650  
 F2516660  
 F2516670  
 F2516680  
 F2516690  
 F2516700  
 F2516710

06442	+000000002610	OCT 2610	2L	F2516720
06443	+000000002233	OCT 2233	2R	F2516730
06444	+000000002223	OCT 2223	2R	F2516740
06445	+000000002215	OCT 2215	2R	F2516750
06446	+000000002200	OCT 2200	2R	F2516760
*****F2516770				
CN3IJ COMPUTES THE INDEX INCREMENTING VALUE FOR EACH PASS THRF2516780				
THROUGH A DO LOOP. THIS IS THE NORMAL TXI DECREMENT.				F2516790
06447	0 56000 2 01102	CN3IJ LDQ	DOTAGZ+4,2	COMPUTES DECREMENT AND
06450	0 76300 0 00022	LLS	18	LEAVES IT IN ACCUMULATOR.
06451	3 00002 1 06457	TXH	CN3IJ5,1,2	IF POSIND=3, S1 POS.
06452	0 20000 0 03644	MPY	WRKSC+6	D1N3 FOR S2 OR S3.
06453	0 76500 0 00022	LRS	18	F2516840
06454	3 00001 1 06457	TXH	CN3IJ5,1,1	POSIND=2 S2 POS.
06455	0 20000 0 03645	MPY	WRKSC+7	D2D1N3 FOR S3.
06456	0 76500 0 00022	LRS	18	F2516870
06457	-0 75400 1 00000	CN3IJ5 PXD	0,1	PLACE TWICE
06460	0 76700 0 00001	ALS	1	POSIND IN
06461	-0 73400 1 00000	PDX	0,1	INDEX REGISTER.
06462	0 20000 1 03644	MPY	WRKSC+6,1	CN3D1D2 OR CN3D1 OR CN3.
06463	0 77100 0 00001	ARS	1	F2516920
06464	0 02000 4 00001	TRA	1,4	RESULT IS N3G.
*****F2516930				
C1L023 FILLS OUT THE LOCATION, ADDRESS, AND TAG NAME WORDS FOF2516950				
FOR NON-LOCATION COMPILED INSTRUCTIONS ADDRESSING THE FOLLOWIF2516960				
ING INSTRUCTIONS				F2516970
06465	0 50000 0 05133	C1L023 CLA	L(0)	ROUTINE PLACES SPECIAL
06466	0 60100 0 05176	STO	C1L00	F2516980
06467	0 50000 0 05061	CLA	L1DEC	SYMBOL FOR ADDRESS
06470	0 60100 0 05201	STO	C1L03	F2517010
06471	0 50000 0 05077	CLA	BCD15	AND INITIALIZES LOC. WORD
06472	0 60100 0 05200	STO	C1L02	AND PLACES TAG IN
06473	0 50000 0 03652	CLA	TAG3	TAG WD. THIS IS DOEN
06474	0 62100 0 05201	STA	C1L03	FOR INST. OF K DECREMENT.
06475	0 02000 4 00001	TRA	1,4	F2517060
*****F2517070				
TGA MAKES AN ENTRY IN APPENDED TAGTAG SHOWING THE LOCATION OFF2517080				
A GIVEN VARIABLE DECREMENT TXI OR TIX. FOR REFERENCE BY THE F2517090				
ALPHA STATE WHEN COMPILING CECREMENT INITIALIZATION				F2517100
INSTRUCTIONS.				F2517110
06476	0 76700 0 00022	TGA	ALS 18	FOR RX LOC.
06477	0 77100 0 00003	TGAT	ARS 3	FOR TX LOC, DIV VCTOR BY 8.
06500	0 60100 0 05202	STO	ERTGA	F2517140
06501	0 53400 1 05240	LXA	POSIND,1	F2517150
06502	0 50000 0 05237	CLA	XTG	CALCULATES X LOC OF TTGA.
06503	0 77100 0 00002	ARS	2	INDEX QUANTITY FOR TTGA IS
06504	-0 73400 2 00000	PDX	0,2	ONE FOURTH THAT FOR TTG.
06505	0 50000 0 05202	CLA	ERTGA	F2517190
06506	2 00001 1 06511	TGA5	TIX TGA10,1,1	SHIFT LEFT FOR S1 OR S2
06507	-0 60200 2 02646	TGA8	ORS MXTGA,2	ADDRESS IS ORIGIN PLUS MAX
06510	0 02000 4 00001	TRA	1,4	ADD TG WD. LINKAGE TRANSFER.
06511	0 76700 0 00006	TGA10	ALS 6	F2517230
06512	0 02000 0 06506	TRA	TGA5	F2517240
*****F2517250				

EDCB COMPILES TXI-SXD-TIX INSTRUCTIONS AND STORES THE SXD LOC F2517260  
 ACTION FOR BLOCKS B,C,D, OR E WHEN THE DECREMENTS ARE CONSTANT F2517270  
 AND KNOWN. F2517280

06513	-0	63400	4	06533	EDCB	SXD	EDCB5,4	COMPILES TXI SXD TIX	F2517290
06514	0	50000	0	05042		CLA	L(TXI)	INSTRUCTIONS WHEN	F2517300
06515	0	60100	0	05177		STO	CIL01	DECREMENTS ARE KNOWN.	F2517310
06516	0	50000	0	05245		CLA	ERTX01	ASSUMES DECREMENTS TO	F2517320
06517	0	62100	0	05177		STA	CIL01	BE IN ERTX01 AND	F2517330
06520	0	07400	4	06465		TSX	CIL023,4	ERTX02.	F2517340
06521	0	07400	4	04345		TSX	CIT,4	COMPILE TXI INSTRUCTION.	F2517350
06522	0	07400	4	04472		TSX	CSXD,4	COMPILE SXD SKELETON.	F2517360
06523	0	50000	0	05176		CLA	CIL00		F2517370
06524	-0	32000	0	05141		ANA	ADMSK		F2517380
06525	0	76700	0	00014		ALS	12	BELOW, PLACE SXD LOC. INTO	F2517390
06526	-0	53400	4	05250		LXD	BLKNUM,4	DOTAG WORD 7. APPROPRIATE	F2517400
06527	3	00002	4	06534		TXH	EDCB10,4,2	BITS DEPEND ON BLOCK NOS.	F2517410
06530	-0	53400	2	03647		LXD	TAG2,2	BLOCKS D, E SHIFT LEFT 12.	F2517420
06531	3	00001	4	06533		TXH	EDCB5,4,1	BLOCKS C, B USE S1 DOTAG.	F2517430
06532	0	76700	0	00006		ALS	6	BLOCK C, SHIFT LEFT 12.	F2517440
06533	-3	00000	0	06535	EDCB5	TXL	EDCB20,0	BLOCK B, SHIFT LEFT 18.	F2517450
06534	-0	53400	2	03650	EDCB10	LXD	TAG2+1,2	BLOCK D,E USE S2 DOTAG.	F2517460
06535	-0	60200	2	01104	EDCB20	ORS	DOTAGZ+6,2	PLACE LOC. INTO WD 7.	F2517470
06536	0	50000	0	05046		CLA	L(TIX)	COMPILE	F2517480
06537	0	60100	0	05177		STO	CIL01	TIX.	F2517490
06540	0	50000	0	05246		CLA	ERTX02	COMPILE	F2517500
06541	0	62100	0	05177		STA	CIL01	TIX DECREMENT.	F2517510
06542	0	07400	4	06465		TSX	CIL023,4		F2517520
06543	0	07400	4	04345		TSX	CIT,4		F2517530
06544	-0	53400	4	06533		LXD	EDCB5,4		F2517540
06545	0	02000	4	00001		TRA	1,4		F2517550

\*\*\*\*\*F2517560  
 BCDE COMPILES TXI-SXD-TIX INSTRUCTIONS AND MAKES PROPER TABLE F2517570  
 ENTRIES IN DOTAG AND TGA WHEN BLOCK B,C,D, OR E IS VARIABLE. F2517580

06546	-0	63400	4	06567	BCDE	SXD	BCDE2,4		F2517590
06547	0	07400	4	06224		TSX	CILV,4	OBTAIN LOC. FOR FIRST INST.	F2517600
06550	0	50000	0	05176		CLA	CIL00	MAKE LOCATION ENTRY INTO	F2517610
06551	-0	32000	0	05141		ANA	ADMSK	APPENDED TAG WORD.	F2517620
06552	0	07400	4	06476		TSX	TGA,4		F2517630
06553	0	50000	0	05042		CLA	L(TXI)	PLACE OPERATION IN	F2517640
06554	0	60100	0	05177		STO	CIL01	COMPILED INSTRUCTION.	F2517650
06555	0	07400	4	06625		TSX	CIL23,4	FILL OUT REMAINING WORDS.	F2517660
06556	0	07400	4	04345		TSX	CIT,4		F2517670
06557	0	07400	4	04472		TSX	CSXD,4		F2517680
06560	-0	53400	2	05250		LXD	BLKNUM,2		F2517690
06561	-3	00002	2	06570		TXL	BCDE5,2,2	TEST FOR BLOCKS B OR C.	F2517700
06562	0	50000	0	05176		CLA	CIL00	BLOCK D OR E.	F2517710
06563	-0	53400	1	03650		LXD	TAG2+1,1	PLACE LOC. OF SXD INST.	F2517720
06564	-0	32000	0	05141		ANA	ADMSK	INTO DOTAG ENTRY FOR	F2517730
06565	0	76700	0	00014		ALS	12	CENTER SUBSCRIPT.	F2517740
06566	-0	60200	1	01104		ORS	DOTAGZ+6,1		F2517750
06567	-3	00000	0	06577	BCDE2	TXL	BCDE9,0	BLOCKS D,E CONTINUE.	F2517760
06570	0	50000	0	05176	BCDE5	CLA	CIL00	BLOCK B OR C.	F2517770
06571	-0	53400	1	03647		LXD	TAG2,1	PLACE LOC. FOR SXD OF	F2517780
06572	-0	32000	0	05141		ANA	ADMSK	REMAINING TWO BLOCKS.	F2517790



06573	0	76700	0	00014	ALS 12	DISTINGUISH BETWEEN BLOCK B, C.	F2517800
06574	3	00001	2	06576	TXH BCDE8,2,1		F2517810
06575	0	76700	0	00006	ALS 6		F2517820
06576	-0	60200	1	01104	BCDE8 ORS DOTAGZ+6,1		F2517830
06577	-0	75400	2	00000	BCDE9 PXD 0,2	BLOCK NUMBER MUST BE	F2517840
06600	0	76700	0	00016	ALS 14	STORED IN PROPER POS.	F2517850
06601	0	53400	1	05240	LXA POSIND,1	OF TAG 4 WORD.	F2517860
06602	-3	00001	1	06606	TXL BCDE10-1,1,1		F2517870
06603	-3	00002	1	06607	TXL BCDE10,1,2	IF POSITION IS LEFT,	F2517880
06604	-0	50000	0	05140	CAL BIT8	PLACE A ONE IN BIT 7 OF TAG4	F2517890
06605	0	02000	0	06607	TRA BCDE10	TO INDICATE BLOCK D SPECIAL.	F2517900
06606	0	77100	0	00003	ARS 3		F2517910
06607	-0	53400	2	05237	BCDE10 LXD XTG,2		F2517920
06610	-0	60200	2	02341	ORS MXTGTG+3,2		F2517930
06611	0	07400	4	06224	TSX CILV,4	OBTAIN LOC. FOR THIRD	F2517940
06612	0	50000	0	05046	CLA L(TIX)	INST. AND OPERATION PART	F2517950
06613	0	60100	0	05177	STO CIL01	FOR 2ND WORD.	F2517960
06614	0	07400	4	06625	TSX CIL23,4	FILL OUT REMAINING WORDS.	F2517970
06615	0	07400	4	04345	TSX CIT,4		F2517980
06616	-0	53400	4	06567	LXD BCDE2,4		F2517990
06617	0	02000	4	00001	TRA 1,4		F2518000
					*****		F2518010
06620	0	50000	2	01076	NBITS CLA DOTAGZ,2	NBITS ISOLATES THE VARIABLE PARAMETER BITS FOR A GIVEN DOTAG.	F2518020
06621	0	77100	0	00017	ARS 15	ROUTINE FOR ISOLATING	F2518030
06622	-0	32000	0	05076	ANA L(7)	THE N BITS OF A DO.	F2518040
06623	0	60100	0	05235	STO N1N2N3		F2518050
06624	0	02000	4	00001	TRA 1,4		F2518060
					*****		F2518070
06625	0	50000	0	05176	CIL23 CLA CIL00	CIL23 FILLS OUT THE ADDRESS AND TAG NAME WORDS FOR A COMPILED	F2518080
06626	0	60100	0	05200	STO CIL02	INSTRUCTION WHEN THE ADDRESS IS TO BE THE NEXT SEQUENTIAL	F2518090
06627	0	50000	0	03652	CLA TAG3	INSTRUCTION AND THE LOCATION WORD IS FILLED ELSEWHERE.	F2518100
06630	-0	32000	0	05141	ANA ADMSK	THIS ROUTINE PLACES TAG IN	F2518110
06631	-0	50100	0	05061	ORA L1DEC	TAG WD. OF CIL03 AND 1	F2518120
06632	0	60100	0	05201	STO CIL03	IN DECREMENT FOR THE	F2518130
06633	0	02000	4	00001	TRA 1,4	RELATIVE PART,	F2518140
					*****	PLACES THE LOCATION IN	F2518150
06634	0	50000	0	03652	CILNAM CLA TAG3	THE ADDRESS WORD CIL02 .	F2518160
06635	-0	32000	0	05141	ANA ADMSK		F2518170
06636	0	60100	0	05201	STO CIL03		F2518180
06637	0	02000	4	00001	TRA 1,4		F2518190
					*****		F2518200
					CILNAM ENTERS ONLY THE TAG NAME.		F2518210
					THIS ROUTINE		F2518220
					ENTERES THE		F2518230
					TAG NAME		F2518240
					IN CIL.		F2518250
					*****		F2518260
							F2518270
					MASTER RECORD CARD = FN049		F2518275
					BEGIN ALPHA STATE		F2518280
					THE ALPHA STATE, AC, IS CALLED BY MAN TO COMPILE ALL INITIAL		F2518290
					ZATION AND LOAD INSTRUCTIONS WHEN AN ALPH OF A DO IS UNDER		F2518300
					CONSIDERATION.		F2518310
							F2518320

05256	-0	63400	4	06252	AC	SXD AC248,4
05257	0	60100	0	05244		STO VCTR
05260	0	50000	2	01104		CLA DOTAGZ+6,2
05261	0	77100	0	00033		ARS 27
05262	-0	32000	0	05170		ANA 6ONESR
05263	0	76700	0	00003		ALS 3
05264	0	40000	0	05225		ADD B
05265	0	60100	0	05176		STO CIL00
05266	0	50000	2	01076		CLA DOTAGZ,2
05267	-0	32000	0	05071		ANA NOPRET
05270	0	60100	0	05251		STO SXDTXZ
05271	0	76600	0	00301		WRS 193
05272	-0	50000	0	05251		CAL SXDTXZ
05273	0	36100	0	05176		ACL CIL00
05274	0	60200	0	05245		SLW ERTX01
05275	0	46000	0	05063		LDA DRADS2
05276	0	70000	0	05251		CPY SXDTXZ
05277	0	70000	0	05176		CPY CIL00
05300	0	70000	0	05245		CPY ERTX01
05301	0	50000	0	05063		CLA DRADS2
05302	0	40000	0	05131		ADD L(3)
05303	0	60100	0	05063		STO DRADS2
05304	0	50000	0	05123	AC05	CLA ALLONE
05305	0	60100	0	05176		STO CIL00
05306	0	60100	0	05177		STO CIL01
05307	0	60100	0	05200		STO CIL02
05310	0	60100	0	05201		STO CIL03
05311	0	07400	4	04352		TSX CITSP,4
05312	0	07400	4	04153		TSX SCAN,4
05313	-0	63400	1	05221		SXD RTXTGX,1
05314	-0	63400	1	05237		SXD XTG,1
05315	0	07400	4	04162	AC010	TSX FIND,4
05316	0	02000	0	06240		TRA AC240+1
05317	-0	63400	1	05237		SXD XTG,1
05320	0	07400	4	04373	AC014	TSX SCLMN1,4
05321	-0	53400	1	05237		LXD XTG,1
05322	0	40200	0	05230		SUB DOIND
05323	-0	10000	0	05315	AC016	TNZ AC010
05324	-0	53400	1	03652		LXD TAG3,1
05325	3	00000	1	05340		TXH AC018,1,0
05326	0	50000	0	03652		CLA TAG3
05327	0	77100	0	00013		ARS 11
05330	0	76000	0	00001		LBT
05331	0	02000	0	05334		TRA AC0161
05332	0	07400	4	04230		TSX ENTR,4
05333	0	02000	0	05343		TRA AC020
05334	0	50000	0	03652	AC0161	CLA TAG3
05335	-0	32000	0	05153		ANA 11BITS
05336	0	07400	4	04236		TSX SUBCOM,4
05337	0	02000	0	05355		TRA AC021
05340	0	50000	0	03652	AC018	CLA TAG3
05341	0	77100	0	00022		ARS 18
05342	0	07400	4	04236	AC019	TSX SUBCOM,4
05343	0	07400	4	04560	AC020	TSX N1STET,4

STORE LINKAGE  
DOTAG ALPHA IS LOCATION.  
PLACE  
SXD LOCATION  
IN  
CIL00 AND  
TXL LOCATION  
IN  
ERTX01 FOR

OF SXDTX TABLE.  
MAKE  
SXDTX  
TABLE  
ENTRY  
ON  
DRUM 1.

RESET DRUM  
ADDRESS FOR  
NEXT ENTRY.  
INITIALIZE CIL WORDS  
TO ALL ONES AND  
PUT  
INTO CIT  
AS FIRST ALPHA STAGE  
ENTRY.  
SCAN AND FIND PICK

BY A DO WITHIN ALPHA  
AND BETA.  
END OF DO FOR DOTAG.  
STORE TGTG INDEX IN XTG.  
OBTAIN X FOR MINLEV OF S.C.  
SET UP FOR FIND ROUTINE.  
TEST TO SEE IF THIS IS  
THE OUTERMOST DO.  
IF IT IS PROCEED TO  
COMPILE PROPER INST.  
NO CURRENT TG, USE NEW TG.  
CHECK RESET TAG BIT  
OR INSERTED COUNTER.  
RESET TYPE ENTRY, USE NEW TAG.  
CTR. TYPE ENTRY, SIMULATE  
WRKSC AND CONTINUE.  
RESET TYPE ENTRY  
LAY OUT TAU ENTRIES

DECREMENT AND CONTINUE.  
CURRENT TAG VALID, LAY  
OUT TAU DNTRIES INTO  
WRKSC AND CONTINUE

F2518330  
F2518340  
F2518350  
F2518360  
F2518370  
F2518380  
F2518390  
F2518400  
F2518410  
F2518420  
F2518430  
F2518440  
F2518450  
F2518460  
F2518470  
F2518480  
F2518490  
F2518500  
F2518510  
F2518520  
F2518530  
F2518540  
F2518550  
F2518560  
F2518570  
F2518580  
F2518590  
F2518600  
F2518610  
F2518620  
F2518630  
F2518640  
F2518650  
F2518660  
F2518670  
F2518680  
F2518690  
F2518700  
F2518710  
F2518720  
F2518730  
F2518740  
F2518750  
F2518760  
F2518770  
F2518780  
F2518790  
F2518800  
F2518810  
F2518820  
F2518830  
F2518840  
F2518850  
F2518860

05344	0	50000	0	05254	CLA NISBX
05345	-0	10000	0	05400	TNZ AC030
05346	0	07400	4	04406	TSX TELC,4
05347	0	50000	0	05245	CLA ERTX01
05350	0	76700	0	00022	ALS 18
05351	0	40000	0	05061	ADD LIDEC
05352	0	07400	4	04601	TSX FIXCON,4
05353	0	60100	0	05200	STO CIL02
05354	0	02000	0	05357	TRA AC022
05355	0	50000	0	05100	CLA BCDO
05356	0	60100	0	05200	STO CIL02
05357	0	50000	0	05051	CLA L(LXD)
05360	0	60100	0	05177	STO CIL01
05361	0	07400	4	07131	TSX CIL031,4
05362	0	50000	0	05200	CLA CIL02
05363	0	60100	0	07621	STO ORO00+27
05364	0	73400	4	00000	PAX 0,4
05365	-0	32000	0	05104	ANA GONES
05366	0	60100	0	05200	STO CIL02
05367	-0	63400	4	05201	SXD CIL03,4
05370	0	50000	0	05222	CLA LOCIND
05371	0	10000	0	05376	TZE AC024
05372	0	40200	0	05126	SUB L(1)
05373	0	60100	0	05222	STO LOCIND
05374	0	50000	0	05224	CLA A
05375	0	60100	0	05176	STO CIL00
05376	0	07400	4	04345	TSX CIT,4
05377	0	76100	0	00000	NOP
05400	0	50000	0	03653	CLA TAG4
05401	0	77100	0	00003	ARS 3
05402	-0	32000	0	05076	ANA L(7)
05403	0	60100	0	05210	STO RELCO
05404	0	50000	0	03653	CLA TAG4
05405	-0	32000	0	05076	ANA L(7)
05406	0	60100	0	05253	STO DEFDO
05407	-0	50100	0	05210	ORA RELCO
05410	0	60100	0	05252	STO OREDO
05411	0	50000	0	05254	CLA NISBX
05412	0	10000	0	05567	TZE AC100+2
05413	0	50000	0	05127	CLA L(2)
05414	0	07400	4	07137	TSX BITP,4
05415	0	02000	0	05417	TRA AC040
05416	0	60100	0	07567	STO ORO00+1
05417	0	50000	0	05126	CLA L(1)
05420	0	07400	4	07137	TSX BITP,4
05421	0	02000	0	05426	TRA AC046
05422	0	60100	0	07572	STO ORO00+4
05423	0	50000	0	03644	CLA WRKSC+6
05424	0	07400	4	04601	TSX FIXCON,4
05425	0	60100	0	07575	STO ORO00+7
05426	0	50000	0	05133	CLA L(0)
05427	0	07400	4	07137	TSX BITP,4
05430	0	02000	0	05443	TRA AC048
05431	0	60100	0	07613	STO ORO00+21

VALUE IS CONSTANT  
VARIABLE, TRA AC030.  
COMPUTE LOAD  
VALUE  
AND PLACE  
IN  
FIXCON.  
FIXCON LOCATION SYMBOL.  
CONTINUE.

LXD ADDRESS TO BCD ZERO.

LXD  
FILL OUT LOCATION AND TG WORDS.  
PLACE LXD ADDRESS  
IN ORO TABLE.  
RELATIVE PART OF FIXCON NAME

ADDRESS.  
RELATIVE ADDRESS.  
TEST LOCATION INDICATOR.

A LOCATION MUST BE  
ASSIGNED FOR 1ST LXD  
COMPILED FOR AN ALPHA.  
PUT IN DOFILE.

VARIABLE CASE, THE BITS FOR  
DEFINING A SUB BY A DO OR  
A RELCON OR BOTH ARE  
ISOLATED IN 3 SEPARATE  
WORDS, DEFDO, RELCO, AND  
ORDEDO.

IF CONSTANT LOAD,  
TRA AC100+2.  
IF VARIABLE LOAD, FILL  
ORO TABLE.  
S1 NOT DEFINED.  
S1 DEFINED. STO SYMBOL IN ORO+1.  
REPEAT FOR  
S2.  
S2 NOT DEFINED.  
S2 DEFINED. PUT SUBSCRIPT  
SYMBOL IN ORO+4 AND  
D1 SYMBOL  
IN ORO+7.  
REPEAT FOR

S3 NOT DEFINED.  
S3 DEFINED. PUT SUBSCRIPT

F2518870  
F2518880  
F2518890  
F2518900  
F2518910  
F2518920  
F2518930  
F2518940  
F2518950  
F2518960  
F2518970  
F2518980  
F2518990  
F2519000  
F2519010  
F2519020  
F2519030  
F2519040  
F2519050  
F2519060  
F2519070  
F2519080  
F2519090  
F2519100  
F2519110  
F2519120  
F2519130  
F2519140  
F2519150  
F2519160  
F2519170  
F2519180  
F2519190  
F2519200  
F2519210  
F2519220  
F2519230  
F2519240  
F2519250  
F2519260  
F2519270  
F2519280  
F2519290  
F2519300  
F2519310  
F2519320  
F2519330  
F2519340  
F2519350  
F2519360  
F2519370  
F2519380  
F2519390  
F2519400

	05432	0	56000	0	03644	LDQ WRKSC+6
	05433	0	20000	0	03645	MPY WRKSC+7
	05434	0	76700	0	00021	ALS 17
	05435	0	07400	4	04601	TSX FIXCON,4
	05436	0	60100	0	07616	STO ORO00+24
	05437	0	50000	0	03644	CLA WRKSC+6
	05440	0	07400	4	04601	TSX FIXCON,4
	05441	0	60100	0	07575	STO ORO00+7
	05442	0	76000	0	00140	PSE 96
	05443	0	07400	4	07172	AC048 TSX COSE,4
	05444	0	50000	0	05152	CLA OPMSK
	05445	-0	32000	0	03653	ANA TAG4
	05446	-0	10000	0	05472	TNZ AC049
M	05447	-0	53400	1	03650	LXD TAG21,1
	05450	-3	00000	1	05452	TXL AC048+7,1,0
	05451	-0	50000	1	01100	CAL DOTAGZ+2,1
M	05452	-0	53400	1	03651	LXD TAG22,1
	05453	-3	00000	1	05455	TXL AC048+10,1,0
	05454	-0	50100	1	01100	ORA DOTAGZ+2,1
	05455	0	40200	0	05126	SUB L(1)
	05456	0	10000	0	05460	TZE AC048I
	05457	0	12000	0	05472	TPL AC049
	05460	-0	53400	1	03647	AC048I LXD TAG2,1
	05461	-3	00000	1	05464	TXL AC048I+4,1,0
	05462	0	50000	1	01100	CLA DOTAGZ+2,1
	05463	0	02000	0	05465	TRA AC048I+5
	05464	0	50000	0	03637	CLA WRKSC+1
	05465	0	60100	0	05200	STO CIL02
	05466	0	07400	4	07131	TSX CIL03I,4
	05467	0	50000	0	05051	CLA L(LXD)
	05470	0	60100	0	05177	STO CIL01
	05471	0	02000	0	05564	TRA AC100-1
	05472	0	53400	1	05127	AC049 LXA L(2),1
	05473	0	50000	0	05252	CLA OREDO
	05474	-0	32000	0	05130	ANA L(4)
	05475	0	10000	0	05503	TZE AC049A
	05476	-0	53400	2	03647	LXD TAG2,2
	05477	-3	00000	2	05505	TXL AC049B,2,0
	05500	0	50000	2	01100	CLA DOTAGZ+2,2
	05501	0	40200	0	05126	SUB L(1)
	05502	-0	10000	0	05505	TNZ AC049B
	05503	0	50000	0	07350	AC049A CLA KLX01
	05504	0	07400	4	07271	TSX LXC,4
	05505	0	50000	0	05252	AC049B CLA OREDO
	05506	0	77100	0	00002	ARS 2
	05507	0	76000	0	00001	LBT
	05510	0	02000	0	05523	TRA AC064
	05511	0	53400	1	05131	LXA L(3),1
	05512	0	07400	4	04670	TSX OP2,4
	05513	0	53400	1	05127	LXA L(2),1
	05514	-0	76000	0	00141	MSE 97
	05515	0	02000	0	05517	TRA AC050
	05516	1	00002	1	05521	TXI AC050I,1,2
	05517	0	50000	0	07353	AC050 CLA KLX02

SYMBOL IN ORO+21  
AND  
PUT  
D1D2 IN  
ORO+24.

OBTAIN SYMBOL FOR D1  
AND STORE IN ORO+7.  
TURN OFF SENSE LIGHTS.  
TEST COEFFS GREATER THAN 1.

COEFS, 011 RELCONS, 100 CUPE.  
SOME OF ABOVE EXIST.  
NONE OF ABOVE EXIST.  
IF S2 DEF BY DO,  
ISOLATE N1.  
IF S3 DEF BY DO,  
OR N1S OF S2 AND S3.  
IF EITHER N1 IS GREATER  
THAN 1, RETURN.  
IS S1 IS  
DEFINED BY A DO,  
IS/LATE N1.  
IF NOT ISOLATE  
S1 (BCD).

STO S1 OR N1 SYMBOL.  
FILL OUT  
COMPILED INSTRUCTION  
WORDS AND CONTINUE  
TO INIT PORTION,

IS LEFT SUB A RELCON,  
DORC, OR DOSUB.  
NO, COMPILE CLA, SUB.  
YES, IS IT A DOSUB.  
NO.  
YES, IS N1(S1)=1.

NO.

COMPILE CLA, SUB.

DEFINITION.  
OF S1.  
S1 IS NOT DEF., TAKE S2.  
S1 DEFINED, GO TO  
OPTIMIZING ROUTINE.  
AT LEAST 4 COMP INST.  
TEST ON COEF  
GREATER THAN 1.

L(LXI02)

F2519410  
F2519420  
F2519430  
F2519440  
F2519450  
F2519460  
F2519470  
F2519480  
F2519490  
F2519500  
F2519510  
F2519520  
F2519530  
F2519540  
F2519550  
F2519560  
F2519570  
F2519580  
F2519590  
F2519600  
F2519610  
F2519620  
F2519630  
F2519640  
F2519650  
F2519660  
F2519670  
F2519680  
F2519690  
F2519700  
F2519710  
F2519720  
F2519730  
F2519740  
F2519750  
F2519760  
F2519770  
F2519780  
F2519790  
F2519800  
F2519810  
F2519820  
F2519830  
F2519840  
F2519850  
F2519860  
F2519870  
F2519880  
F2519890  
F2519900  
F2519910  
F2519920  
F2519930  
F2519940

05520	0	02000	0	05522	TRA AC050I+1				F2519950
05521	0	50000	0	07352	AC050I	CLA KLX02I	L(LXI05)		F2519960
05522	0	07400	4	07271		TSX LXC,4	COMPILER.		F2519970
05523	0	50000	0	05252	AC064	CLA OREDO			F2519980
05524	0	77100	0	00001		ARS 1	S2		F2519990
05525	0	76000	0	00001		LBT	DEFINED.		F2520000
05526	0	02000	0	05540		TRA AC080	S2 NOT DEFINED. S3.		F2520010
05527	0	53400	1	05127		LXA L(2),1	CALL OP2 ROUTINE		F2520020
05530	0	07400	4	04670		TSX OP2,4	TO OPTIMIZE.		F2520030
05531	0	53400	1	05106		LXA L(6),1	COUNTER FOR COMPILING.		F2520040
05532	-0	76000	0	00142		MSE 98	IS COEF GREATER THAN 1.		F2520050
05533	0	02000	0	05536		TRA AC068	NO		F2520060
05534	0	50000	0	07354		CLA KLX03	YES.		F2520070
05535	1	00002	1	05537		TXI AC068+1,1,2	INCREMENT COMPILING COUNTER.		F2520080
05536	0	50000	0	07356	AC068	CLA KLX03I			F2520090
05537	0	07400	4	07271		TSX LXC,4	COMPILE S2 LOAD VALUE.		F2520100
05540	0	50000	0	05252	AC080	CLA OREDO			F2520110
05541	0	76000	0	00001		LBT			F2520120
05542	0	02000	0	05554		TRA AC096	S3 NOT DEFINED, EXIT.		F2520130
05543	0	53400	1	05126		LXA L(1),1	CALL OP2 ROUTINE		F2520140
05544	0	07400	4	04670		TSX OP2,4	FOR OPTIMIZATION.		F2520150
05545	0	53400	1	05106		LXA L(6),1	COMPILING COUNTER.		F2520160
05546	-0	76000	0	00143		MSE 99	TEST FOR COEF GREATER THAN 1.		F2520170
05547	0	02000	0	05552		TRA AC084	NONE.		F2520180
05550	0	50000	0	07355		CLA KLX05	C3 GREATER THAN 1, COMPILE		F2520190
05551	1	00002	1	05553		TXI AC084+1,1,2	KLX05 BLOCK.		F2520200
05552	0	50000	0	07357	AC084	CLA KLX05I	C3=1, COMPILE KLX05I		F2520210
05553	0	07400	4	07271		TSX LXC,4	BLOCK.		F2520220
05554	0	07400	4	07131	AC096	TSX CIL03I,4	COMPILE		F2520230
05555	0	50000	0	05051		CLA L(LXD)	LXD.		F2520240
05556	0	60100	0	05177		STO CIL01			F2520250
05557	0	50000	0	07620		CLA OR000+26	ERASABLE OBJECT TIME SYMBOL.		F2520260
05560	0	73400	1	00000		PAX 0,1			F2520270
05561	-0	32000	0	05104		ANA 6ONES			F2520280
05562	-0	63400	1	05201		SXD CIL03,1			F2520290
05563	0	60100	0	05200		STO CIL02			F2520300
05564	0	07400	4	04345		TSX CIT,4	PUT IN BUFFER.		F2520310
05565	0	50000	0	07620	AC100	CLA OR000+26			F2520320
05566	0	60100	0	07621		STO OR000+27			F2520330
05567	0	53400	1	05131		LXA L(3),1	PREPARE TO		F2520340
05570	-0	63400	1	05207	AC109	SXD AX,1	CHECK FOR		F2520350
05571	0	50000	1	03652		CLA TAG2+3,1	DUPES.		F2520360
05572	-0	73400	2	00000		PDX 0,2	SAVE INDEX OF S.		F2520370
05573	-3	00000	2	05743		TXL AC160,2,0	POS. NOT MOD. BY DO.		F2520380
05574	-2	00001	1	05601	AC110	TNX AC116,1,1			F2520390
05575	0	34000	1	03652		CAS TAG2+3,1	SKIP DUPES		F2520400
05576	0	02000	0	05574		TRA AC110	EXCEPT		F2520410
05577	0	02000	0	05743		TRA AC160	RIGHTMOST.		F2520420
05600	0	02000	0	05574		TRA AC110			F2520430
05601	0	50000	2	01106	AC116	CLA DOTAGZ+8,2	ISOLATE		F2520440
05602	-0	32000	0	05171		ANA 6TO17	NAME OF TEST		F2520450
05603	0	60100	0	05204		STO TETTG	FOR THIS DO		F2520460
05604	0	50000	0	03652		CLA TAG3	AND		F2520470
05605	-0	32000	0	05172		ANA 24TO35	COMPARE		F2520480

05606	0	76700	0	00022	ALS 18
05607	0	34000	0	05204	CAS TETTG
05610	0	02000	0	05743	TRA AC160
05611	0	02000	0	05613	TRA AC120
05612	0	02000	0	05743	TRA AC160
05613	0	50000	2	01101	AC120 CLA DOTAGZ+3,2
05614	-0	32000	0	05104	ANA 6ONES
05615	-0	10000	0	05622	TNZ AC128
05616	0	50000	2	01106	CLA DOTAGZ+8,2
05617	-0	32000	0	05154	ANA BIT20
05620	0	10000	0	05627	TZE AC138
05621	0	02000	0	05633	TRA AC138+4
05622	0	50000	2	01101	AC128 CLA DOTAGZ+3,2
05623	0	60100	0	05200	STO CIL02
05624	0	50000	0	05133	CLA L(0)
05625	0	60100	0	05201	STO CIL03
05626	0	02000	0	05660	TRA AC140
05627	0	56000	2	01104	AC138 LDQ DOTAGZ+6,2
05630	-0	77300	0	00011	RQL 9
05631	-0	76300	0	00014	LGL 12
05632	0	10000	0	05743	TZE AC160
05633	0	50000	2	01101	CLA DOTAGZ+3,2
05634	-0	53400	1	05207	LXD AX,1
05635	0	07400	4	04451	TSX CXIJ+2,4
05636	-2	00001	1	05647	TXN AC139,1,1
05637	0	60100	0	05070	STO ESTORE
05640	0	50000	2	01106	CLA DOTAGZ+8,2
05641	-0	32000	0	05154	ANA BIT20
05642	-0	10000	0	05646	TNZ AC139-1
05643	0	50000	0	05070	CLA ESTORE
05644	0	07400	4	04410	TSX TELC+2,4
05645	0	02000	0	05647	TRA AC139
05646	0	50000	0	05070	CLA ESTORE
05647	0	76700	0	00022	AC139 ALS 18
05650	0	07400	4	04601	TSX FIXCON,4
05651	0	73400	1	00000	PAX 0,1
05652	-0	32000	0	05104	ANA 6ONES
05653	0	60100	0	05200	STO CIL02
05654	0	50000	0	05133	CLA L(0)
05655	0	60100	0	05201	STO CIL03
05656	-0	63400	1	05201	SXD CIL03,1
05657	0	02000	0	05665	TRA AC144
05660	0	50000	0	05126	AC140 CLA L(1)
05661	-0	53400	1	05207	LXD AX,1
05662	0	07400	4	04451	TSX CXIJ+2,4
05663	0	40200	0	05126	SUB L(1)
05664	-0	10000	0	05673	TNZ AC146
05665	0	50000	0	05053	AC144 CLA L(CLA)
05666	0	60100	0	05177	STO CIL01
05667	0	50000	0	05133	CLA L(0)
05670	0	60100	0	05176	STO CIL00
05671	0	07400	4	04345	TSX CIT,4
05672	0	02000	0	05704	TRA AC150
05673	0	40000	0	05126	AC146 ADD L(1)

WITH  
CURRENT TAG.  
NOT A TEST TAG.  
THIS IS A TEST TAG.  
NOT A TEST TAG.  
THIS IS TEST TAG,  
18 N2 CONSTANT.

IF RIGHT TEST HAS VARIABLE DECREMENT  
GO TO AC138 +4  
INSTEAD OF

PUT N2 WORD AS  
SYMBOLIC ADDRESS AND  
ZERO AS THE  
RELATIVE ADDRESS.  
CONSTANT N2 CASE.  
IS TEST  
MODIFIED.  
NO, TAKE NEXT SUB.  
YES, ISOLATE N2.

IF POSITION IS

DOES TEST  
HAVE VARIABLE DECREMENT.

ASSIGN SYMBOL FOR  
LOAD PORTION  
AND COMPILE  
CLAL(GN2 + LOAD PORT.)

COMPUTE G AND DETERMINE  
IF GREATER THAN ONE.

G = 1,  
COMPILE  
CLA N2, FOLLOWED  
LATER BY STD.

G GREATER THAN 1,

F2520490  
F2520500  
F2520510  
F2520520  
F2520530  
F2520540  
F2520550  
F2520560  
F2520570  
F2520580  
F2520590  
F2520600  
F2520610  
F2520620  
F2520630  
F2520640  
F2520650  
F2520660  
F2520670  
F2520680  
F2520690  
F2520700  
F2520710  
F2520720  
F2520730  
F2520740  
F2520750  
F2520760  
F2520770  
F2520780  
F2520790  
F2520800  
F2520810  
F2520820  
F2520830  
F2520840  
F2520850  
F2520860  
F2520870  
F2520880  
F2520890  
F2520900  
F2520910  
F2520920  
F2520930  
F2520940  
F2520950  
F2520960  
F2520970  
F2520980  
F2520990  
F2521000  
F2521010  
F2521020

T  
T

05674	0	76700	0	00022	ALS 18
05675	0	07400	4	04601	TSX FIXCON,4
05676	0	60100	0	07577	STO OR000+9
05677	0	50000	0	05200	CLA CIL02
05700	0	60100	0	07567	STO OR000+1
05701	0	50000	0	07352	CLA KLX02I
05702	0	53400	1	05131	LXA L(3),1
05703	0	07400	4	07271	TSX LXC,4
05704	-0	53400	1	05207	LXD AX,1
05705	0	50000	1	03652	CLA TAG3,1
05706	-0	73400	2	00000	PDX 0,2
05707	0	50000	2	01106	CLA DOTAGZ+B,2
05710	-0	32000	0	05154	ANA BIT20
05711	-0	53400	2	05207	LXD AX,2
05712	0	10000	0	05733	TZE AC157
05713	-2	00001	2	05733	TNX AC157,2,1
05714	0	53400	1	05126	LXA L(1),1
05715	0	50000	0	07351	CLA KLX01I
05716	0	07400	4	07271	TSX LXC,4
05717	0	50000	0	05166	CLA INST13
05720	0	60100	0	05554	STO AC096
05721	0	07400	4	07172	TSX COSE,4
05722	-0	53400	2	05207	LXD AX,2
05723	-3	00002	2	05540	TXL AC080,2,2
05724	0	02000	0	05523	TRA AC064
05725	0	50000	0	05167	CLA INST14
05726	0	60100	0	05554	STO AC096
05727	-0	53400	2	05207	LXD AX,2
05730	-0	53400	4	05173	LXD BBOX,4
05731	1	00004	4	05732	TXI AC155+5,4,4
05732	-0	63400	4	05173	SXD BBOX,4
05733	0	07400	4	07211	TSX TESTLO,4
05734	0	50000	0	05255	CLA TETLOC
05735	0	60100	0	05200	STO CIL02
05736	0	50000	0	05052	CLA L(STD)
05737	0	60100	0	05177	STO CIL01
05740	-0	63400	0	05176	SXD CIL00
05741	-0	63400	0	05201	SXD CIL03
05742	0	07400	4	04345	TSX CIT,4
05743	-0	53400	1	05207	LXD AX,1
05744	2	00001	1	05570	TXI AC109,1,1
05745	0	50000	0	03653	CLA TAG4
05746	0	12000	0	05770	TPL AC165
05747	-0	53400	2	05230	LXD DOIND,2
05750	0	50000	2	01103	CLA DOTAGZ+5,2
05751	-0	32000	0	05136	ANA BIT1
05752	0	10000	0	05770	TZE AC165
05753	0	50000	0	05133	CLA L(0)
05754	0	60100	0	05200	STO CIL02
05755	0	07400	4	07131	TSX CIL03I,4
05756	0	50000	0	05043	CLA L(PXD)
05757	0	60100	0	05177	STO CIL01
05760	0	07400	4	04345	TSX CIT,4
05761	0	50000	2	01077	CLA DOTAGZ+1,2

COMPILE  
LDQ, MPY, ALS.

IN TETLO.  
COMPILE  
STD TETLO  
AND RETURN TO  
AC160 TO  
CONSIDER NEXT  
SUB OF TAG.

REDUCE POS. CTR.  
CHECK SUSBIT  
FOR FORVAR.  
FORVAR, IS IT  
WITHIN THE CURRENT DO.

NO, AC165.  
YES,  
COMPILE  
INSTRUCTIONS  
TO  
STORE  
THE  
VALUE

F2521030  
F2521040  
F2521050  
F2521060  
F2521070  
F2521080  
F2521090  
F2521100  
F2521110  
F2521120  
F2521130  
F2521140  
F2521150  
F2521160  
F2521170  
F2521180  
F2521190  
F2521200  
F2521210  
F2521220  
F2521230  
F2521240  
F2521250  
F2521260  
F2521270  
F2521280  
F2521290  
F2521300  
F2521310  
F2521320  
F2521330  
F2521340  
F2521350  
F2521360  
F2521370  
F2521380  
F2521390  
F2521400  
F2521410  
F2521420  
F2521430  
F2521440  
F2521450  
F2521460  
F2521470  
F2521480  
F2521490  
F2521500  
F2521510  
F2521520  
F2521530  
F2521540  
F2521550  
F2521560

05762	0	60100	0	05200	STO CIL02
05763	0	50000	0	05044	CLA L(STO)
05764	0	60100	0	05177	STO CIL01
05765	-0	75400	0	00000	PXD 0,0
05766	0	60100	0	05201	STO CIL03
05767	0	07400	4	04345	TSX CIT,4
05770	0	50000	0	05237	AC165 CLA XTG
05771	0	77100	0	00002	ARS 2
05772	-0	73400	1	00000	PDX 0,1
05773	-0	50000	1	02646	CAL MXTGA,1
05774	0	60200	0	05211	SLW WRKTGA
05775	0	10000	0	06237	TZE AC240
05776	0	53400	1	05131	LXA L(3),1
05777	-0	63400	1	05207	AC166 SXD AX,1
06000	-0	50000	0	05211	CAL WRKTGA
06001	0	77100	0	00022	ARS 18
06002	-2	00001	1	06005	AC168 TNX AC170,1,1
06003	0	77100	0	00006	ARS 6
06004	0	02000	0	06002	TRA AC168
06005	-0	32000	0	05170	AC170 ANA 60NESR
06006	0	10000	0	06060	TZE AC190
06007	0	76700	0	00003	ALS 3
06010	0	60100	0	05255	STO TETLOC
06011	0	53400	4	05133	LXA L(0),4
06012	-0	53400	1	05207	LXD AX,1
06013	0	50000	0	03653	CLA TAG4
06014	-3	00002	1	06035	TXL AC173,1,2
06015	-0	32000	0	05140	ANA BIT8
06016	-0	10000	0	06021	AC171 TNZ AC172
06017	0	50000	0	03653	CLA TAG4
06020	0	02000	0	06042	TRA AC176
06021	0	56000	0	03640	AC172 LDQ WRKSC+2
06022	0	20000	0	03644	MPY WRKSC+6
06023	0	76700	0	00021	ALS 17
06024	0	60100	0	07612	STO ORO00+20
06025	0	50000	0	03636	CLA WRKSC
06026	0	60100	0	07611	STO ORO00+19
06027	0	53400	1	05131	LXA L(3),1
06030	-0	63400	1	05212	SXD N3X,1
06031	0	53400	1	05127	LXA L(2),1
06032	-0	63400	1	05213	SXD XX,1
06033	0	07400	4	06701	TSX PC,4
06034	0	02000	0	06060	TRA AC190
06035	-3	00001	1	06037	AC173 TXL AC174,1,1
06036	0	77100	0	00003	ARS 3
06037	0	77100	0	00035	AC174 ARS 29
06040	-0	32000	0	05076	ANA L(7)
06041	0	73400	4	00000	PAX 0,4
06042	3	00000	4	06045	AC176 TXH AC176+3,4,0
06043	0	07400	4	06324	TSX AORO,4
06044	0	02000	0	06060	TRA AC190
06045	3	00001	4	06050	TXH AC178,4,1
06046	0	07400	4	06435	TSX BORO,4
06047	0	02000	0	06060	TRA AC190

OF  
THE  
SUBSCRIPT  
INTO  
ITS  
SYMBOL.  
START SCANNING  
TGA FOR LOCATIONS  
INDICATING VARIABLE  
DECREMENTS OF TXI  
AND TIX INSTRUCTIONS-  
NONE, AC240.  
YES, ISOLATE  
APP. TGTG AND  
CHECK FOR  
LOCATIONS  
OF TXI  
INSTRUCTIONS  
WITH VARIABLE  
DECREMENTS.  
NONE, AC190.  
STORE  
LOC. OF TXI.

IS  
POSITION

POSITION IS S1, IS  
THIS BLOCK D SPECIAL.  
NO, BLOCK A.  
TSX AORO  
TES, SET UP  
CID1 AS G  
FOR XX POSITION.  
C1 IS G FOR  
N3X POSITION.  
PREPARE TO  
CALL PC ROUTINE  
TO COMPILE  
INITIALIZATION  
INSTRUCTIONS  
FOR BLOCK D SPECIAL.

IS POSITION S3)  
ISOLATE BLKNUM  
FROM TAG4 AND  
CALLPROPER ROUTINE  
TO COMPILE INITIALIZATION  
INSTRUCTIONS FOR THAT BLOCK.  
BLOCK A

BLOCK B

F2521570  
F2521580  
F2521590  
F2521600  
F2521610  
F2521620  
F2521630  
F2521640  
F2521650  
F2521660  
F2521670  
F2521680  
F2521690  
F2521700  
F2521710  
F2521720  
F2521730  
F2521740  
F2521750  
F2521760  
F2521770  
F2521780  
F2521790  
F2521800  
F2521810  
F2521820  
F2521830  
F2521840  
F2521850  
F2521860  
F2521870  
F2521880  
F2521890  
F2521900  
F2521910  
F2521920  
F2521930  
F2521940  
F2521950  
F2521960  
F2521970  
F2521980  
F2521990  
F2522000  
F2522010  
F2522020  
F2522030  
F2522040  
F2522050  
F2522060  
F2522070  
F2522080  
F2522090  
F2522100



06050	3	00002	4	06053	AC178	TXH AC182,4,2
06051	0	07400	4	06453		TSX CORO,4
06052	0	02000	0	06060		TRA AC190
06053	3	00003	4	06056	AC182	TXH AC186,4,3
06054	0	07400	4	06502		TSX DORO,4
06055	0	02000	0	06060		TRA AC190
06056	0	07400	4	06541	AC186	TSX EORO,4
06057	0	02000	0	06060		TRA AC190
06060	-0	53400	1	05207	AC190	LXD AX,1
06061	2	00001	1	05777		TIX AC166,1,1
06062	0	53400	1	05131		LXA L(3),1
06063	-0	63400	1	05207	AC200	SXD AX,1
06064	0	50000	0	05211		CLA WRKTGA
06065	-2	00001	1	06070	AC210	TNX AC214+1,1,1
06066	0	77100	0	00006		ARS 6
06067	0	02000	0	06065	AC214	TRA AC210
06070	-0	32000	0	05170		ANA 60NESR
06071	0	10000	0	06235		TZE AC236
06072	0	76700	0	00003		ALS 3
06073	0	60100	0	05255		STO TETLOC
06074	-0	53400	1	05207		LXD AX,1
06075	0	50000	1	03652		CLA TAG2+3,1
06076	-0	73400	2	00000		PDX 0,2
06077	0	50000	2	01102	ACI21	CLA DOTAGZ+4,2
06100	0	40200	0	05126		SUB L(1)
06101	0	10000	0	06107		TZE AC220+2
06102	0	07400	4	07237		TSX XORO,4
06103	0	53400	1	05106		LXA L(6),1
06104	-0	53400	2	05207		LXD AX,2
06105	0	50000	2	07367	AC220	CLA KTX00+3,2
06106	0	07400	4	07271		TSX LXC,4
06107	-0	53400	1	05207		LXD AX,1
06110	0	50000	0	05160		CLA INST4
06111	0	60100	0	06424		STO AORO30
06112	0	50000	0	05161		CLA INST5
06113	0	60100	0	06430		STO AORO40
06114	0	07400	4	06324		TSX AORO,4
06115	0	02000	0	06172	AC224	TRA AC230
06116	-0	53400	1	05207	AC228	LXD AX,1
06117	0	50000	1	03652		CLA TAG2+3,1
06120	-0	73400	2	00000		PDX 0,2
06121	0	50000	2	01102		CLA DOTAGZ+4,2
06122	0	40200	0	05126		SUB L(1)
06123	-0	10000	0	06166		TNZ AC2281
06124	0	50000	2	01100		CLA DOTAGZ+2,2
06125	0	40200	0	05126		SUB L(1)
06126	-0	10000	0	06135		TNZ ACI22
06127	0	50000	2	01101		CLA DOTAGZ+3,2
06130	0	60100	0	07566		STO ORO00
06131	0	50000	0	07360		CLA K1AORO
06132	0	53400	1	05130		LXA L(4),1
06133	0	07400	4	07271		TSX LXC,4
06134	0	02000	0	06231		TRA AC234
06135	0	07400	4	04741	ACI22	TSX OP3,4

BLOCK C

BLOCK D.

BLOCK E.

IF ALL SUBS HAVE NOT BEEN  
CONSIDERED FOR TIX, TAKE NEXT RT.  
THIS REPRESENTS END OF  
TIX PHASE, START TIX.  
ISOLATE APP. TGTG ENTRY.

IS THERE A TIX VAR. DEC. LOC.  
YES, STORE TIX REL. LOC.  
IN TETLOC WORD.

ISOLATE  
N3 FOR  
THIS DO.  
DOES N3 = 1.

NO, PLACE N SYMBOLS  
IN APPROP. ORO LOCS  
AND COMPUTE  
X QUANTITY  
ON O.C. LEVEL.

TRA AC224. MODIFY ADRO  
ROUTINE TO COMPUTE G.  
TRAAC228.

COMPUTE G, PUT IN ORO+19.  
G1 = 1.  
G1 NOT = 1,  
COMPILE INSTRUCTIONS  
TO COMPUTE AND INITIALIZE  
TIX DECREMENT.

N3 NOT = 1.  
N3 = 1, DOES  
N1 = 1.  
N1 NOT = 1.  
N3, N1=1.  
G GREATER THAN 1.

EXIT TIX INITIALIZATION.  
N3= 1, N1 NOT = 1,

F2522110  
F2522120  
F2522130  
F2522140  
F2522150  
F2522160  
F2522170  
F2522180  
F2522190  
F2522200  
F2522210  
F2522220  
F2522230  
F2522240  
F2522250  
F2522260  
F2522270  
F2522280  
F2522290  
F2522300  
F2522310  
F2522320  
F2522330  
F2522340  
F2522350  
F2522360  
F2522370  
F2522380  
F2522390  
F2522400  
F2522410  
F2522420  
F2522430  
F2522440  
F2522450  
F2522460  
F2522470  
F2522480  
F2522490  
F2522500  
F2522510  
F2522520  
F2522530  
F2522540  
F2522550  
F2522560  
F2522570  
F2522580  
F2522590  
F2522600  
F2522610  
F2522620  
F2522630  
F2522640

06136 0 50000 0 05054  
 06137 0 60100 0 05177  
 06140 0 50000 0 07603  
 06141 0 73400 1 00000  
 06142 -0 32000 0 05104  
 06143 0 60100 0 05200  
 06144 -0 63400 1 05201  
 06145 0 07400 4 04345  
 06146 0 50000 0 05044  
 06147 0 60100 0 05177  
 06150 0 50000 0 05133  
 06151 0 60100 0 05201  
 06152 0 50000 0 07620  
 06153 0 73400 4 00000  
 06154 -0 32000 0 05104  
 06155 0 60100 0 05200  
 06156 -0 63400 4 05201  
 06157 0 07400 4 04345  
 06160 0 50000 0 07620  
 06161 0 60100 0 07566  
 06162 0 53400 1 05130  
 06163 0 50000 0 07360  
 06164 0 07400 4 07271  
 06165 0 02000 0 06231  
 06166 0 53400 1 05130 AC228I  
 06167 0 50000 0 07371  
 06170 0 07400 4 07271  
 06171 0 02000 0 06231  
 06172 -0 53400 1 05207 AC230  
 06173 0 50000 1 03652  
 06174 -0 73400 2 00000  
 06175 0 50000 2 01102  
 06176 0 40200 0 05126  
 06177 -0 10000 0 06226  
 06200 0 50000 2 01100  
 06201 0 40200 0 05126  
 06202 -0 10000 0 06211  
 06203 0 50000 2 01101  
 06204 0 60100 0 07566  
 06205 0 50000 0 07362  
 06206 0 53400 1 05127  
 06207 0 07400 4 07271  
 06210 0 02000 0 06231  
 06211 0 07400 4 04741 ACI23  
 06212 0 50000 0 05054  
 06213 0 60100 0 05177  
 06214 0 50000 0 07603  
 06215 0 73400 1 00000  
 06216 -0 32000 0 05104  
 06217 0 60100 0 05200  
 06220 -0 63400 1 05201  
 06221 0 07400 4 04345  
 06222 0 50000 0 07363  
 06223 0 53400 1 05126

CLA L(ADD)  
 STO CIL01  
 CLA OR000+13  
 PAX 0,1  
 ANA 6ONES  
 STO CIL02  
 SXD CIL03,1  
 TSX CIT,4  
 CLA L(STO)  
 STO CIL01  
 CLA L(0)  
 STO CIL03  
 CLA OR000+26  
 PAX 0,4  
 ANA 6ONES  
 STO CIL02  
 SXD CIL03,4  
 TSX CIT,4  
 CLA OR000+26  
 STO OR000  
 LXA L(4),1  
 CLA K1AORO  
 TSX LXC,4  
 TRA AC234  
 LXA L(4),1  
 CLA LTX040  
 TSX LXC,4  
 TRA AC234  
 LXD AX,1  
 CLA TAG2+3,1  
 PDX 0,2  
 CLA DOTAGZ+4,2  
 SUB L(1)  
 TNZ AC230I  
 CLA DOTAGZ+2,2  
 SUB L(1)  
 TNZ ACI23  
 CLA DOTAGZ+3,2  
 STO OR000  
 CLA K2AORO  
 LXA L(2),1  
 TSX LXC,4  
 TRA AC234  
 TSX OP3,4  
 CLA L(ADD)  
 STO CIL01  
 CLA OR000+13  
 PAX 0,1  
 ANA 6ONES  
 STO CIL02  
 SXD CIL03,1  
 TSX CIT,4  
 CLA K3AORO  
 LXA L(1),1

COMPILE  
 TIX  
 INITIALIZATION  
 GROUP  
 FOR  
 THIS  
 CASE.

ERASEABLE STORAGE  
 SYMBOL FOR ADDRESS.

PLACE ERASEABLE SYMBOL  
 IN OR000 FOR LXC BLOCK.

EXIT TIX INITIALIZATION.

COMPILE TIX INITIALIZATION  
 GROUP FOR THIS CASE.

EXIT TIX INITIALIZATION.

G=1,  
 DOES  
 N3 = 1.

NO.  
 YES, DOES N1= 1.

NO.  
 G,N3,N1 = 1,  
 COMPILE TIX  
 INITIALIZATION  
 FOR THIS  
 CASE.

EXIT TIX INITIALIZATION.  
 N3=1, N1 NOT = 1.

COMPILE  
 TIX  
 INITIALIZATION  
 FOR  
 THIS  
 CASE.

F2522650  
 F2522660  
 F2522670  
 F2522680  
 F2522690  
 F2522700  
 F2522710  
 F2522720  
 F2522730  
 F2522740  
 F2522750  
 F2522760  
 F2522770  
 F2522780  
 F2522790  
 F2522800  
 F2522810  
 F2522820  
 F2522830  
 F2522840  
 F2522850  
 F2522860  
 F2522870  
 F2522880  
 F2522890  
 F2522900  
 F2522910  
 F2522920  
 F2522930  
 F2522940  
 F2522950  
 F2522960  
 F2522970  
 F2522980  
 F2522990  
 F2523000  
 F2523010  
 F2523020  
 F2523030  
 F2523040  
 F2523050  
 F2523060  
 F2523070  
 F2523080  
 F2523090  
 F2523100  
 F2523110  
 F2523120  
 F2523130  
 F2523140  
 F2523150  
 F2523160  
 F2523170  
 F2523180

06224	0	07400	4	07271	TSX LXC,4		F2523190
06225	0	02000	0	06231	TRA AC234		F2523200
06226	0	53400	1	05127	LXA L(2),1	EXIT TIX INITIALIZATION.	F2523210
06227	0	50000	0	07372	CLA LTX042	G =1, N3 NOT = 1.	F2523220
06230	0	07400	4	07271	TSX LXC,4	THIS CASE.	F2523230
06231	0	50000	0	05157	AC234 CLA INST3	RESET MODIFIED AORO.	F2523240
06232	0	60100	0	06424	STO AORO30	LXC L(4),1.	F2523250
06233	0	50000	0	05156	CLA INST2		F2523260
06234	0	60100	0	06430	STO AORO40	LXD L(2),1.	F2523270
06235	-0	53400	1	05207	AC236 LXD AX,1		F2523280
06236	2	00001	1	06063	TIX AC200,1,1		F2523290
06237	0	02000	0	05315	AC240 TRA AC010	START ADTG COMPILING.	F2523300
06240	0	53400	2	05125	LXA LADMx,2		F2523310
06241	1	00004	2	06242	TXI AC240+3,2,4		F2523320
06242	-0	63400	2	05237	SXD XTG,2		F2523330
06243	0	50000	0	05162	CLA INST8	L(TRA AC244).	F2523340
06244	0	62100	0	06237	STA AC240	MODIFY RETURN FOR ADTG ENTRY.	F2523350
06245	0	62100	0	05323	STA AC016		F2523360
06246	0	50000	0	05163	CLA INST10		F2523370
06247	0	62100	0	05773	STA AC165+3		F2523380
06250	0	07400	4	04516	AC244 TSX ADTGSE,4	FIND VALID ADTG ENTRY.	F2523390
06251	0	02000	0	06253	TRA AC250	END OF TABLE , GET NEXT DO.	F2523400
06252	-3	00000	0	05320	AC248 TXL AC014,0	VALID ENTRY, CONTINUE AC CYCLE.	F2523410
06253	0	50000	0	05164	AC250 CLA INST11	REINITIALIZE	F2523420
06254	0	62100	0	06237	STA AC240	INSTRUCTIONS	F2523430
06255	0	62100	0	05323	STA AC016	MODIFIED	F2523440
06256	0	50000	0	05165	CLA INST12	FOR DMTAG	F2523450
06257	0	62100	0	05773	STA AC165+3	CYCLE.	F2523460
06260	0	50000	0	05222	CLA LOCIND	COMPILE AT LEAST	F2523470
06261	0	10000	0	06272	TZE AC260	A BSS INST SO	F2523480
06262	0	50000	0	05224	CLA A	THAT TRA INST	F2523490
06263	0	60100	0	05176	STO CIL00	WILL FUNCTION	F2523500
06264	0	50000	0	05133	CLA L(0)	PROPERLY.	F2523510
06265	0	60100	0	05200	STO CIL02		F2523520
06266	0	60100	0	05201	STO CIL03		F2523530
06267	0	50000	0	05056	CLA L(BSS)		F2523540
06270	0	60100	0	05177	STO CIL01		F2523550
06271	0	07400	4	04345	TSX CIT,4		F2523560
06272	-0	53400	4	06252	AC260 LXD AC248,4	END OF	F2523570
06273	0	02000	4	00001	TRA 1,4	ALPHA CYCLE.	F2523580
					*****		F2523590
					CDORO TAKES COEF. AND DIM. AND FILLS OUT ORO.		F2523600
06274	-0	63400	4	06277	CDORO SXD CDORO1,4		F2523610
06275	-0	53400	2	05207	LXD AX,2		F2523620
06276	-0	76000	0	00144	MSE 100		F2523630
06277	3	00000	0	06300	CDORO1 TXH CDORO1+1,0	WHICH SUB IS IT.	F2523640
06300	-3	00002	2	06307	TXL CDORO3,2,2	S2 OR S3, TRA.	F2523650
06301	0	50000	0	03636	CLA WRKSC	S1,	F2523660
06302	0	40200	0	05061	SUB L1DEC	IS C1 GREATER THAN1.	F2523670
06303	0	10000	4	00001	TZE 1,4	C1=1, RETURN.	F2523680
06304	0	76000	0	00144	PSE 100	C1 NOT = 1, TURN ON	F2523690
06305	0	50000	0	03636	CLA WRKSC	SENSE LIGHT , ISOLATE C1.	F2523700
06306	0	02000	0	06317	TRA CDORO7+1		F2523710
06307	0	56000	0	03644	CDORO3 LDQ WRKSC+6	ISOLATE D1.	F2523720

06310	-3	00001	2	06313	TXL CDOR05,2,1	WHICH SUB IS IT.	F2523730
06311	0	20000	0	03640	MPY WRKSC+2	S2, FORM C2D1.	F2523740
06312	0	02000	0	06316	TRA CDOR07		F2523750
06313	0	20000	0	03642	MPY WRKSC+4	S3, FORM	F2523760
06314	0	76500	0	00022	LRS 18	C3D1D2.	F2523770
06315	0	20000	0	03645	MPY WRKSC+7		F2523780
06316	0	76700	0	00021	CDOR07 ALS 17	ASSIGN SYMBOL	F2523790
06317	0	07400	4	04601	TSX FIXCON,4	FOR G AND PUT	F2523800
06320	0	60100	0	07611	STO ORO00+19	IN ORO + 19.	F2523810
06321	-0	53400	4	06277	LXD CDOR01,4	RESTORE LINKAGE,	F2523820
06322	-0	53400	2	05207	LXD AX,2	PUT AX POSITION IN	F2523830
06323	0	02000	4	00001	TRA 1,4	I.R. B AND RETURN.	F2523840
						*****	F2523850
						AORO, BORO, CORO, DORO, AND EORO ARE CALLED TO MAKE APPROPRIATE	F2523860
						COMPILING TABLE (ORO) ENTRIES AND TO CALL ROUTINES TO MAKE	F2523870
						COMPUTATIONS AND COMPILE INSTRUCTIONS TO INITIALIZE VARIABLE	F2523880
						DECREMENTS FOR BLOCKS A, B, C, D, AND E RESPECTIVELY.	F2523890
06324	-0	63400	4	06346	AORO SXD AOR05,4		F2523900
06325	0	50000	1	03652	CLA TAG2+3,1	LOCATION IS	F2523910
06326	-0	73400	2	00000	PDX 0,2	SPECIFIED IN ORO +14	F2523920
06327	0	50000	2	01076	CLA DOTAGZ,2	BY COMBINING TETLOC	F2523930
06330	-0	32000	0	05141	ANA ADMSK	WITH PROPER BETA.	F2523940
06331	0	76700	0	00022	ALS 18		F2523950
06332	-0	50100	0	05255	ORA TETLOC		F2523960
06333	0	60100	0	07604	STO ORO00+14		F2523970
06334	0	50000	2	01102	CLA DOTAGZ+4,2		F2523980
06335	0	60100	0	07566	STO ORO00		F2523990
06336	-0	53400	1	05207	LXD AX,1		F2524000
06337	-3	00002	1	06347	TXL AOR010,1,2	S2 OR S3.	F2524010
06340	0	50000	0	03636	CLA WRKSC	S1, IS	F2524020
06341	0	40200	0	05061	SUB L1DEC	C1=1.	F2524030
06342	0	10000	0	06424	TZE AOR030	YES	F2524040
06343	0	40000	0	05061	ADD L1DEC	NO, ASSIGN	F2524050
06344	0	07400	4	04601	TSX FIXCON,4	SYMBOL FOR C1.	F2524060
06345	0	60100	0	07611	STO ORO00+19		F2524070
06346	-3	00000	0	06430	AOR05 TXL AOR040,0		F2524080
06347	-3	00001	1	06367	AOR010 TXL AOR020,1,1	IS SUB S2.	F2524090
06350	0	56000	0	03640	LDQ WRKSC+2	YES, FOR C2D1.	F2524100
06351	0	20000	0	03644	MPY WRKSC+6	IF S2 IS A	F2524110
06352	0	76700	0	00021	ALS 17	DUPE, ADD C1.	F2524120
06353	0	60100	0	05245	STO ERAORO		F2524130
06354	0	56000	0	03653	LDQ TAG4		F2524140
06355	0	76300	0	00031	LLS 25		F2524150
06356	0	76000	0	00001	LBT		F2524160
06357	0	02000	0	06363	TRA AOR014	NO DUPES.	F2524170
06360	0	50000	0	03636	CLA WRKSC		F2524180
06361	0	40000	0	05245	ADD ERAORO		F2524190
06362	0	60100	0	05245	STO ERAORO		F2524200
06363	0	50000	0	05245	AOR014 CLA ERAORO	CONTAINS C2D1, ETC.	F2524210
06364	0	07400	4	04601	TSX FIXCON,4	ASSIGN SYMBOL FOR	F2524220
06365	0	60100	0	07611	STO ORO00+19	G AND PUT IN ORO+19	F2524230
06366	0	02000	0	06430	TRA AOR040		F2524240
06367	0	56000	0	03642	AOR020 LDQ WRKSC+4	S3, FORM	F2524250
06370	0	20000	0	03644	MPY WRKSC+6	C3D1D2.	F2524260

06371	0	76500	0	00022	LRS 18		F2524270
06372	0	20000	0	03645	MPY WRKSC+7		F2524280
06373	0	76700	0	00021	ALS 17		F2524290
06374	0	60100	0	05245	STO ERAORO		F2524300
06375	0	56000	0	03653	LDQ TAG4	CHECK DUPES	F2524310
06376	0	76300	0	00032	LLS 26	AND MAKE G	F2524320
06377	0	76000	0	00001	LBT	ADJUSTMENTS	F2524330
06400	0	02000	0	06420	TRA AOR024	ACCORDINGLY.	F2524340
06401	0	77100	0	00001	ARS 1		F2524350
06402	0	76000	0	00001	LBT		F2524360
06403	0	02000	0	06411	TRA AOR022		F2524370
06404	0	56000	0	03640	LDQ WRKSC+2		F2524380
06405	0	20000	0	03644	MPY WRKSC+6		F2524390
06406	0	76700	0	00021	ALS 17		F2524400
06407	0	40000	0	05245	ADD ERAORO		F2524410
06410	0	60100	0	05245	STO ERAORO		F2524420
06411	0	50000	0	03653	AOR022 CLA TAG4		F2524430
06412	0	77100	0	00013	ARS 11		F2524440
06413	0	76000	0	00001	LBT		F2524450
06414	0	02000	0	06420	TRA AOR024		F2524460
06415	0	50000	0	03636	CLA WRKSC		F2524470
06416	0	40000	0	05245	ADD ERAORO		F2524480
06417	0	60100	0	05245	STO ERAORO		F2524490
06420	0	50000	0	05245	AOR024 CLA ERAORO		F2524500
06421	0	07400	4	04601	TSX FIXCON,4	ASSIGN SYMBOL FOR	F2524510
06422	0	60100	0	07611	STO ORO00+19	G FOR S3.	F2524520
06423	0	02000	0	06430	TRA AOR040		F2524530
06424	0	53400	1	05127	AOR030 LXA L(2),1	SUB IS S1, C1=1.	F2524540
06425	0	50000	0	07362	CLA K2AORO	COMPILE CLA, STD.	F2524550
06426	0	07400	4	07271	TSX LXC,4		F2524560
06427	0	02000	0	06433	TRA AOR050		F2524570
06430	0	53400	1	05130	AOR040 LXA L(4),1	COMPILE LDQ,MPY, STD.	F2524580
06431	0	50000	0	07360	CLA K1AORO		F2524590
06432	0	07400	4	07271	TSX LXC,4		F2524600
06433	-0	53400	4	06346	AOR050 LXD AOR05,4	RESTORE LINKAGE.	F2524610
06434	0	02000	4	00001	TRA 1,4		F2524620
06435	-0	63400	4	05236	BORO SXD LINKC,4	*****F2524630	F2524630
06436	0	56000	0	03640	LDQ WRKSC+2	FOR B BLOCK	F2524640
06437	0	20000	0	03644	MPY WRKSC+6	COMPUTE G AS	F2524650
06440	0	76700	0	00021	ALS 17	C2D1. PLACE	F2524660
06441	0	60100	0	07611	STO ORO00+19	THIS AND C1	F2524670
06442	0	50000	0	03636	CLA WRKSC	IN ORO.	F2524680
06443	0	60100	0	07612	STO ORO00+20		F2524690
06444	0	53400	1	05127	LXA L(2),1	INITIALIZE N3X	F2524700
06445	-0	63400	1	05212	SXD N3X,1	POS. TO S2.	F2524710
06446	0	53400	1	05131	LXA L(3),1	INITIALIZE XX	F2524720
06447	-0	63400	1	05213	SXD XX,1	POS. TO S1.	F2524730
06450	0	07400	4	06701	TSX PC,4		F2524740
06451	-0	53400	4	05236	LXD LINKC,4		F2524750
06452	0	02000	4	00001	TRA 1,4		F2524760
06453	-0	63400	4	06465	CORO SXD CORO05,4	*****F2524780	F2524780
06454	0	56000	0	03644	LDQ WRKSC+6	FORM C3D1D2 AND	F2524790
							F2524800

06455	0	20000	0	03645	MPY WRKSC+7	STORE IN	F2524810
06456	0	76500	0	00022	LRS 18	ORO+19	F2524820
06457	0	20000	0	03642	MPY WRKSC+4	FOR USE BY	F2524830
06460	0	76700	0	00021	ALS 17	PC IN COMPUTING	F2524840
06461	0	60100	0	07611	STO ORO00+19	BLOCK C DECREMENTS.	F2524850
06462	0	50000	0	03653	CLA TAG4	TEST	F2524860
06463	0	77100	0	00011	ARS 9	FOR	F2524870
06464	0	76000	0	00001	LBT	DUPES.	F2524880
D 06465	-3	00000	0	06473	CORO05 TXL CORO10,0	NO DUPES.	F2524890
06466	0	56000	0	03644	LDQ WRKSC+6	IF DUPES, FORM	F2524900
06467	0	20000	0	03640	MPY WRKSC+2	C2D1, ADD TO	F2524910
06470	0	76700	0	00021	ALS 17	ORO+19, AND STORE	F2524920
06471	0	40000	0	07611	ADD ORO00+19	IN ORO+19 FOR	F2524930
06472	0	60100	0	07611	STO ORO00+19	USE BY PC.	F2524940
06473	0	53400	1	05126	CORO10 LXA L(1),1	SET N3X POSITION	F2524950
06474	-0	63400	1	05212	SXD N3X,1	TO S3,	F2524960
06475	0	53400	1	05131	LXA L(3),1	XX POSITION TO S1	F2524970
06476	-0	63400	1	05213	SXD XX,1	AND CALL PC TO COMPUTE	F2524980
06477	0	07400	4	06701	TSX PC,4	AND COMPILE BLKC INIT.	F2524990
06500	-0	53400	4	06465	LXD CORO05,4	RESTORE LINKAGE AND	F2525000
06501	0	02000	4	00001	TRA 1,4	RETURN TO MAIN ROUTINE.	F2525010
*****							F2525020
06502	-0	63400	4	06522	DORO SXD DORO5,4	BLOCK D NORMAL.	F2525030
06503	0	56000	0	03642	LDQ WRKSC+4	COMPUTES C3D1D2, G1	F2525040
06504	0	20000	0	03644	MPY WRKSC+6	AND C2D1, G2 IF DUP.	F2525050
06505	0	76500	0	00022	LRS 18	EXIST IN THE CASE	F2525060
06506	0	20000	0	03645	MPY WRKSC+7	110 C1 ADDED TO G2.	F2525070
06507	0	76700	0	00021	ALS 17	IN THE CASE 101	F2525080
06510	0	60100	0	07611	STO ORO00+19	C1 ADDED TO G1.	F2525090
06511	0	56000	0	03640	LDQ WRKSC+2		F2525100
06512	0	20000	0	03644	MPY WRKSC+6		F2525110
06513	0	76700	0	00021	ALS 17		F2525120
06514	0	60100	0	07612	STO ORO00+20		F2525130
06515	0	50000	0	03653	CLA TAG4		F2525140
06516	0	77100	0	00011	ARS 9		F2525150
06517	-0	32000	0	05076	ANA L(7)		F2525160
06520	0	10000	0	06532	TZE DORO20		F2525170
06521	0	76000	0	00001	LBT		F2525180
D 06522	-3	00000	0	06527	DORO5 TXL DORO10,0		F2525190
06523	0	50000	0	03636	CLA WRKSC		F2525200
06524	0	40000	0	07611	ADD ORO00+19		F2525210
06525	0	60100	0	07611	STO ORO00+19		F2525220
06526	0	02000	0	06532	TRA DORO20		F2525230
06527	0	50000	0	03636	DORO10 CLA WRKSC		F2525240
06530	0	40000	0	07612	ADD ORO00+20		F2525250
06531	0	60100	0	07612	STO ORO00+20		F2525260
06532	0	53400	1	05126	DORO20 LXA L(1),1	SET N3X POS. TO S3,	F2525270
06533	-0	63400	1	05212	SXD N3X,1		F2525280
06534	0	53400	1	05127	LXA L(2),1	XX POS. TO S2.	F2525290
06535	-0	63400	1	05213	SXD XX,1		F2525300
06536	0	07400	4	06701	TSX PC,4	MAKE COMPUTATIONS AND COMPILE	F2525310
06537	-0	53400	4	06522	LXD DORO5,4	INSTRUCTIONS TO INIT. VAR.	F2525320
06540	0	02000	4	00001	TRA 1,4	BLOCK D DECREMENTS.	F2525330
*****							F2525340

06541	-0	63400	4	06645	EORO	SXD EORO06,4
06542	0	07400	4	06502		TSX DORO,4
06543	0	50000	0	07605		CLA ORO00+15
06544	0	40000	0	05110		ADD L(8)
06545	0	60100	0	07604		STO ORO00+14
06546	0	40000	0	05135		ADD L(16)
06547	0	60100	0	07605		STO ORO00+15
06550	0	53400	1	05131		LXA L(3),1
06551	0	50000	1	03652		CLA TAG2+3,1
06552	-0	73400	2	00000		PDX 0,2
06553	0	50000	2	01103		CLA DOTAGZ+5,2
06554	-0	32000	0	05137		ANA BIT2
06555	0	10000	0	06644		TZE EORO06-1
06556	0	50000	2	01102		CLA DOTAGZ+4,2
06557	0	40200	0	05126		SUB L(1)
06560	-0	10000	0	06644		TNZ EORO06-1
06561	0	50000	2	01100		CLA DOTAGZ+2,2
06562	0	40200	0	05126		SUB L(1)
06563	-0	10000	0	06610		TNZ EORO2
06564	0	50000	0	03636		CLA WRKSC
06565	0	40200	0	05061		SUB L1DEC
06566	-0	10000	0	06571		TNZ EORO1
06567	0	50000	2	01101		CLA DOTAGZ+3,2
06570	0	02000	0	06674		TRA EORO22
06571	0	50000	2	01101	EORO1	CLA DOTAGZ+3,2
06572	0	60100	0	07566		STO ORO00
06573	0	50000	0	03636		CLA WRKSC
06574	0	07400	4	04601		TSX FIXCON,4
06575	0	60100	0	07611		STO ORO00+19
06576	0	50000	0	07360		CLA K1AORO
06577	0	53400	1	05131		LXA L(3),1
06600	0	07400	4	07271		TSX LXC,4
06601	0	53400	1	05126	EORO3	LXA L(1),1
06602	0	50000	0	07376		CLA LXCIE1
06603	0	07400	4	07271		TSX LXC,4
06604	1	00001	1	06605		TXI EORO3+4,1,1
06605	0	50000	0	07400		CLA LXCEIP
06606	0	07400	4	07271		TSX LXC,4
06607	0	02000	0	06664		TRA EORO18+3
06610	0	07400	4	04741	EORO2	TSX OP3,4
06611	0	50000	0	03636		CLA WRKSC
06612	0	40200	0	05061		SUB L1DEC
06613	0	10000	0	06601		TZE EORO3
06614	0	50000	0	05054		CLA L(ADD)
06615	0	60100	0	05177		STO CIL01
06616	0	50000	0	07603		CLA ORO00+13
06617	0	73400	4	00000		PAX 0,4
06620	-0	32000	0	05104		ANA 60NES
06621	0	60100	0	05200		STO CIL02
06622	-0	63400	4	05201		SXD CIL03,4
06623	0	07400	4	04345		TSX CIT,4
06624	0	50000	0	05044		CLA L(STO)
06625	0	60100	0	05177		STO CIL01
06626	0	50000	0	07620		CLA ORO00+26

COMP. INSTR. FOR 1ST TXI-SXD-TIX.

UPDATE

TXI RELATIVE

INSTRUCTION NUMBER.

UPDATE TIX RELATIVE

INSTRUCTION NUMBER.

SEE IF

X FOR

XX POSITION

IS

COMPUTABLE.

X COMPUTABLE.

X NOT COMPUTABLE,

IS N3=1.

N3 NOT =1.

N3=1, IS

N1 = 1.

N1 NOT = 1.

N3,NU = 1,

DOES C1=1.

NO.

N3, N1, C1 = 1.

ISOLATE N2 SYMBOL.

ISOLATE

N2 SYMBOL.

ASSIGN SYMBOL

FOR C1, AND

COMPILE LDQ L(N2),

MPY L(C1), ARS 17.

COMPILE

SUB L(1),

COMPILE

STD L(TIX), STD L(TXI).

COMPILE CLA (N2 - N1)

OR CLA N2, SUB N1.

DOES C1=1.

UES, EORO3.

NO, COMPILE

ADD L(1),

STO 1)+3,

MPY L(C1.,

ALS 17,

STO 1)+3,

AND GO TO

EORO3.

F2525350

F2525360

F2525370

F2525380

F2525390

F2525400

F2525410

F2525420

F2525430

F2525440

F2525450

F2525460

F2525470

F2525480

F2525490

F2525500

F2525510

F2525520

F2525530

F2525540

F2525550

F2525560

F2525570

F2525580

F2525590

F2525600

F2525610

F2525620

F2525630

F2525640

F2525650

F2525660

F2525670

F2525680

F2525690

F2525700

F2525710

F2525720

F2525730

F2525740

F2525750

F2525760

F2525770

F2525780

F2525790

F2525800

F2525810

F2525820

F2525830

F2525840

F2525850

F2525860

F2525870

F2525880

06627	0	60100	0	07567	STO	ORO00+1		F2525890
06630	0	73400	4	00000	PAX	0,4		F2525900
06631	-0	32000	0	05104	ANA	6ONES		F2525910
06632	0	60100	0	05200	STO	CIL02		F2525920
06633	-0	63400	4	05201	SXD	CIL03,4		F2525930
06634	0	07400	4	04345	TSX	CIT,4	FIXCON SYMBOL	F2525940
06635	0	50000	0	03636	CLA	WRKSC	FOR C1.	F2525950
06636	0	07400	4	04601	TSX	FIXCON,4		F2525960
06637	0	60100	0	07577	STO	ORO00+9		F2525970
06640	0	50000	0	07352	CLA	KLX02I		F2525980
06641	0	53400	1	05130	LXA	L(4),1		F2525990
06642	0	07400	4	07271	TSX	LXC,4		F2526000
06643	0	02000	0	06601	TRA	EORO3		F2526010
06644	0	07400	4	07226	TSX	PXORO,4	C1 GREATER THAN 1.	F2526020
D 06645	-3	00000	0	06647	EORO06	TXL EORO08,0		F2526030
06646	0	02000	0	06666	TRA	EORO20	X CONSTANT, EORO20.	F2526040
06647	0	53400	1	05106	EORO08	LXA L(6),1	X NOT CONST.,	F2526050
06650	0	50000	0	03636	CLA	WRKSC	COMPILE	F2526060
06651	0	40200	0	05061	SUB	L1DEC	INSTRUCTIONS	F2526070
06652	0	10000	0	06657	TZE	EORO15	TO COMPUTE	F2526080
06653	1	00002	1	06654	TXI	EORO10,1,2	XGN3.	F2526090
06654	0	50000	0	03636	EORO10	CLA WRKSC		F2526100
06655	0	07400	4	04601	TSX	FIXCON,4		F2526110
06656	0	60100	0	07577	STO	ORO00+9		F2526120
06657	0	50000	0	07373	EORO15	CLA LXC1		F2526130
06660	0	07400	4	07271	TSX	LXC,4		F2526140
06661	0	53400	1	05130	EORO18	LXA L(4),1	COMPILE LLS, SUB,	F2526150
06662	0	50000	0	07375	CLA	LXCIE	STD,STD.	F2526160
06663	0	07400	4	07271	TSX	LXC,4		F2526170
06664	-0	53400	4	06645	LXD	EORO06,4		F2526180
06665	0	02000	4	00001	TRA	1,4		F2526190
06666	0	76500	0	00043	EORO20	LRS 35		F2526200
06667	0	76100	0	00000	NOP			F2526210
06670	0	20000	0	03636	MPY	WRKSC		F2526220
06671	0	76700	0	00021	ALS	17		F2526230
06672	0	76100	0	00000	NOP			F2526240
06673	0	07400	4	04601	TSX	FIXCON,4		F2526250
06674	0	60100	0	07612	EORO22	STO ORO00+20	PUT SYMBOL IN	F2526260
06675	0	53400	1	05126	LXA	L(1),1	ORO+20 AND COMPILE	F2526270
06676	0	50000	0	07377	CLA	LXCIEP	CLA (SYMBOL),	F2526280
06677	0	07400	4	07271	TSX	LXC,4		F2526290
06700	0	02000	0	06601	TRA	EORO3		F2526300
*****F2526310								
PC IS A SUBROUTINE CALLED BY AORO, BORO, ETC. TO MAKE COMPUTAF2526320								
TIONS AND TO CALL COMPILING ROUTINES FOR TXI DECREMENT INTIAF2526330								
LIZATION.								
06701	-0	63400	4	06717	PC	SXD PC04,4		F2526340
06702	-0	53400	1	05212	LXD	N3X,1		F2526350
06703	0	50000	1	03652	CLA	TAG2+3,1		F2526360
06704	-0	73400	2	00000	PDX	0,2		F2526370
06705	0	50000	2	01076	CLA	DOTAG2,2		F2526380
06706	-0	32000	0	05141	ANA	ADMSK	FORM LOCATION	F2526390
06707	0	76700	0	00022	ALS	18	WORDS AND PUT	F2526400
06710	-0	50100	0	05255	ORA	TETLOC	IN ORO+14	F2526410
								F2526420



06711 0 60100 0 07604  
 06712 0 40000 0 05135  
 06713 0 60100 0 07605  
 06714 0 50000 2 01076  
 06715 0 77100 0 00017  
 06716 0 76000 0 00001  
 D 06717 -3 00000 0 06731 PC04  
 06720 0 50000 2 01102  
 06721 0 60100 0 07566  
 06722 0 50000 0 07611  
 06723 0 07400 4 04601  
 06724 0 60100 0 07611  
 06725 0 53400 1 05130  
 06726 0 50000 0 07402  
 06727 0 07400 4 07271  
 06730 0 02000 0 06736  
 06731 0 56000 2 01102 PC10  
 06732 0 20000 0 07611  
 06733 0 076300 0 00043  
 06734 0 07400 4 04601  
 06735 0 60100 0 07611  
 06736 -0 53400 1 05213 PC20  
 06737 0 50000 1 03652 PCI  
 06740 -0 73400 2 00000  
 06741 0 50000 2 01102  
 06742 0 40200 0 05126  
 06743 -0 10000 0 07050  
 06744 0 50000 2 01103  
 06745 -0 32000 0 05137  
 06746 0 10000 0 07050  
 06747 -3 00002 1 07027  
 06750 0 50000 2 01100  
 06751 0 40200 0 05126  
 06752 -0 10000 0 06773  
 06753 0 50000 2 01101  
 06754 0 60100 0 07567  
 06755 0 50000 0 03636  
 06756 0 40200 0 05061  
 06757 -0 10000 0 06764  
 06760 0 53400 1 05126  
 06761 0 50000 0 07353  
 06762 0 07400 4 07271  
 06763 0 02000 0 07044  
 06764 0 50000 0 03636 PC121  
 06765 0 07400 4 04601  
 06766 0 60100 0 07577  
 06767 0 50000 0 07352  
 06770 0 53400 1 05130  
 06771 0 07400 4 07271  
 06772 0 02000 0 07113  
 06773 0 07400 4 04741 PC122  
 06774 0 50000 0 03636  
 06775 0 40200 0 05061  
 06776 0 10000 0 07113

STO ORO00+14  
 ADD L(16)  
 STO ORO00+15  
 CLA DOTAGZ,2  
 ARS 15  
 LBT  
 TXL PC10,0  
 CLA DOTAGZ+4,2  
 STO ORO00  
 CLA ORO00+19  
 TSX FIXCON,4  
 STO ORO00+19  
 LXA L(4),1  
 CLA K1BORO  
 TSX LXC,4  
 TRA PC20  
 LDQ DOTAGZ+4,2  
 MPY ORO00+19  
 LLS 35  
 TSX FIXCON,4  
 STO ORO00+19  
 LXD XX,1  
 CLA TAG2+3,1  
 PDX 0,2  
 CLA DOTAGZ+4,2  
 SUB L(1)  
 TNZ PC21  
 CLA DOTAGZ+5,2  
 ANA BIT2  
 TZE PC21  
 TXL PCI31,1,2  
 CLA DOTAGZ+2,2  
 SUB L(1)  
 TNZ PCI22  
 CLA DOTAGZ+3,2  
 STO ORO00+1  
 CLA WRKSC  
 SUB L1DEC  
 TNZ PCI21  
 LXA L(1),1  
 CLA KLX02  
 TSX LXC,4  
 TRA PCI33  
 CLA WRKSC  
 TSX FIXCON,4  
 STO ORO00+9  
 CLA KLX021  
 LXA L(4),1  
 TSX LXC,4  
 TRA PC60  
 TSX OP3,4  
 CLA WRKSC  
 SUB L1DEC  
 TZE PC60

AND ORO+15.

IS N3 FOR THIS DO  
VARIABLE.

NO, PC10.

YES,

COMPILE

LDQ L(G), (N3X POS.),

MPY N3, (N3X POS.),

ALS 17,

STO C(ORO+12)

N3 CONSTANT, PUT

N3G SYMBOL IN

ORO+19

ISOLATE N3 FOR

XX POSITION

DOES N3 = 1.

NO, PC22.

YES, IS X CONST.

YES, PC21.

NO, IS POS. S2.

NO, IS N1 = 1.

NO, PCI22.

YES, DOES C1 = 1.

NO, PCI21.

YES, COMPILE

CLA N1,

SUBL(1), AND

COMPILE

LDQ L(N2)

MPY LC1)

ALS 17

STO 1) +3.

COMPILE CLA L(N2-N1)

IS C1 = 1.

YES, PC 60.

F2526430  
 F2526440  
 F2526450  
 F2526460  
 F2526470  
 F2526480  
 F2526490  
 F2526500  
 F2526510  
 F2526520  
 F2526530  
 F2526540  
 F2526550  
 F2526560  
 F2526570  
 F2526580  
 F2526590  
 F2526600  
 F2526610  
 F2526620  
 F2526630  
 F2526640  
 F2526650  
 F2526660  
 F2526670  
 F2526680  
 F2526690  
 F2526700  
 F2526710  
 F2526720  
 F2526730  
 F2526740  
 F2526750  
 F2526760  
 F2526770  
 F2526780  
 F2526790  
 F2526800  
 F2526810  
 F2526820  
 F2526830  
 F2526840  
 F2526850  
 F2526860  
 F2526870  
 F2526880  
 F2526890  
 F2526900  
 F2526910  
 F2526920  
 F2526930  
 F2526940  
 F2526950  
 F2526960

06777	0	50000	0	03636		CLA WRKSC
07000	0	07400	4	04601		TSX FIXCON,4
07001	0	60100	0	07577		STO ORO00+9
07002	0	50000	0	05054	PCI22R	CLA L(ADD)
07003	0	60100	0	05177		STO CIL01
07004	0	50000	0	07603		CLA ORO00+13
07005	0	73400	1	00000		PAX 0,1
07006	-0	63400	1	05201		SXD CIL03,1
07007	-0	32000	0	05104		ANA 6ONES
07010	0	60100	0	05200		STO CIL02
07011	0	07400	4	04345		TSX CIT,4
07012	0	50000	0	05044		CLA L(STO)
07013	0	60100	0	05177		STO CIL01
07014	0	50000	0	07620		CLA ORO00+26
07015	0	60100	0	07567		STO ORO00+1
07016	0	73400	4	00000		PAX 0,4
07017	-0	32000	0	05104		ANA 6ONES
07020	0	60100	0	05200		STO CIL02
07021	-0	63400	4	05201		SXD CIL03,4
07022	0	07400	4	04345		TSX CIT,4
07023	0	53400	1	05130		LXA L(4),1
07024	0	50000	0	07352		CLA KLX02I
07025	0	07400	4	07271		TSX LXC,4
07026	0	02000	0	07044		TRA PCI33
07027	0	50000	0	07612	PCI31	CLA ORO00+20
07030	0	07400	4	04601		TSX FIXCON,4
07031	0	60100	0	07577		STO ORO00+9
07032	0	50000	2	01100		CLA DOTAGZ+2,2
07033	0	40200	0	05126		SUB L(1)
07034	0	10000	0	07037		TZE PCI32
07035	0	07400	4	04741		TSX OP3,4
07036	0	02000	0	07002		TRA PCI22R
07037	0	50000	2	01101	PCI32	CLA DOTAGZ+3,2
07040	0	60100	0	07567		STO ORO00+1
07041	0	53400	1	05130		LXA L(4),1
07042	0	50000	0	07352		CLA KLX02I
07043	0	07400	4	07271		TSX LXC,4
07044	0	53400	1	05126	PCI33	LXA L(1),1
07045	0	50000	0	07404		CLA LXC161
07046	0	07400	4	07271		TSX LXC,4
07047	0	02000	0	07113		TRA PC60
07050	0	07400	4	07226	PC21	TSX PXORO,4
07051	0	02000	0	07053		TRA PC22
07052	0	02000	0	07102		TRA PC50
07053	-0	53400	1	05213	PC22	LXD XX,1
07054	-3	00002	1	07073		TXL PC40,1,2
07055	0	53400	1	05106		LXA L(6),1
07056	0	50000	0	03636		CLA WRKSC
07057	0	40200	0	05061		SUB L1DEC
07060	0	10000	0	07065		TZE PC30
07061	1	00002	1	07062		TXI PC25,1,2
07062	0	40000	0	05061	PC25	ADD L1DEC
07063	0	07400	4	04601		TSX FIXCON,4
07064	0	60100	0	07577		STO ORO00+9

NO, OBTAIN  
SYMBOL FOR  
C1 AND  
COMPILE  
ADD L(1)  
STO 1) +3  
LDQ 1) +3  
MPY L(G)  
ALS17  
STD 1) +3  
SUB L(1),  
THEN GO  
TO PC60.

XX POS 2 , X VAR., N3 = 1;  
ASSIGN SYMBOL FOR G  
AND PUT IN ORO+9  
IS N1 = 1

YES, PCI32.  
NO, COMPILE CLA (N2-N1)  
OR CLA N2, SUB N1.  
COMPILE  
LDQ N2,  
MPY G,  
ALS 17,  
STO1)+3,

IS X CONSTANT.  
NO, PC22.  
YES, PC50.  
X NOT CONSTANT,  
IS POSITION S1.  
YES, COMPILE  
INSTRUCTIONS  
TO COMPUTE  
N3X-1, AND  
TO TO PC60,

F2526970  
F2526980  
F2526990  
F2527000  
F2527010  
F2527020  
F2527030  
F2527040  
F2527050  
F2527060  
F2527070  
F2527080  
F2527090  
F2527100  
F2527110  
F2527120  
F2527130  
F2527140  
F2527150  
F2527160  
F2527170  
F2527180  
F2527190  
F2527200  
F2527210  
F2527220  
F2527230  
F2527240  
F2527250  
F2527260  
F2527270  
F2527280  
F2527290  
F2527300  
F2527310  
F2527320  
F2527330  
F2527340  
F2527350  
F2527360  
F2527370  
F2527380  
F2527390  
F2527400  
F2527410  
F2527420  
F2527430  
F2527440  
F2527450  
F2527460  
F2527470  
F2527480  
F2527490  
F2527500

07065	0	50000	0	07373	PC30	CLA LXC1		F2527510
07066	0	07400	4	07271		TSX LXC,4		F2527520
07067	0	53400	1	05127		LXA L(2),1		F2527530
07070	0	50000	0	07374		CLA LXC16		F2527540
07071	0	07400	4	07271		TSX LXC,4		F2527550
07072	0	02000	0	07113		TRA PC60		F2527560
07073	0	50000	0	07612	PC40	CLA OR000+20	POS. IS S2,	F2527570
07074	0	07400	4	04601		TSX FIXCON,4	COMPILE INSTRUCTIONS	F2527580
07075	0	60100	0	07612		STO OR000+20	TO COMPUT N3X-1 AND	F2527590
07076	0	53400	1	05134		LXA L(10),1	GO TO PC60.	F2527600
07077	0	50000	0	07403		CLA LX2C1		F2527610
07100	0	07400	4	07271		TSX LXC,4		F2527620
07101	0	02000	0	07113		TRA PC60		F2527630
07102	0	76500	0	00043	PC50	LRS 35	X IS CONSTANT,	F2527640
07103	0	20000	0	07612		MPY OR000+20	FORM GN3X-1 FOR	F2527650
07104	0	76700	0	00021		ALS 17	XX POS. AND COMPILE	F2527660
07105	0	40200	0	05061		SUB L1DEC		F2527670
07106	0	07400	4	04601		TSX FIXCON,4		F2527680
07107	0	60100	0	07612		STO OR000+20		F2527690
07110	0	53400	1	05126		LXA L(1),1		F2527700
07111	0	50000	0	07401		CLA XK		F2527710
07112	0	07400	4	07271		TSX LXC,4		F2527720
07113	-0	53400	1	05212	PC60	LXD N3X,1	IS	F2527730
07114	0	50000	1	03652		CLA TAG2+3,1	N3	F2527740
07115	-0	73400	2	00000		PDX 0,2	OF	F2527750
07116	0	53400	1	05131		LXA L(3),1	CURRENT	F2527760
07117	0	50000	2	01076		CLA DOTAGZ,2	DO	F2527770
07120	0	77100	0	00017		ARS 15	VARIABLE.	F2527780
07121	0	76000	0	00001		LBT	CONSTANT, PC61.	F2527790
07122	0	02000	0	07127		TRA PC61	VARIABLE, COMPILE	F2527800
07123	0	50000	0	07405		CLA LXC18	STD, ADD N3G, STD.	F2527810
07124	0	07400	4	07271	PC62	TSX LXC,4		F2527820
07125	-0	53400	4	06717		LXD PC04,4		F2527830
07126	0	02000	4	00001		TRA 1,4		F2527840
07127	0	50000	0	07562	PC61	CLA LXC18P	CONSTANT. COMPILE	F2527850
07130	0	02000	0	07124		TRA PC62	STD, ADD C(OR0+12), STD.	F2527860
*****								F2527870
C1L031 FILLS OUT LOCATION AND TAG NAME WORDS FOR COMPILED INSTRUCTIONS WITHOUT LOCATIONS.								F2527880
07131	0	50000	0	05133	C1L031	CLA L(0)	PLACE 0 IN LOCATION	F2527890
07132	0	60100	0	05176		STO C1L00	WORD AND TAG IN	F2527900
07133	0	50000	0	03652		CLA TAG3	TAG WORD OF COMPILED	F2527910
07134	-0	32000	0	05141		ANA ADMSK	INSTRUCGIN.	F2527920
07135	0	60100	0	05201		STO C1L03		F2527930
07136	0	02000	4	00001		TRA 1,4		F2527940
*****								F2527950
BITP CHECKS SUBSCRIPTS FOR DEFINITION. IF DEFINED BY RELCON OR DOSUB IT OBTAINS OBJECT PROGRAM SYMBOLS FOR NI OR S1 RESPECTIVELY.								F2527960
07137	0	62100	0	07162	BITP	STA BITP14		F2527970
07140	0	62100	0	07147		STA BITP02	INITIALIZE SHIFTS,	F2527980
07141	0	62100	0	07153		STA BITP04	STORE LINKAGE	F2527990
07142	0	73400	2	00000		PAX 0,2	AND PLACE 0,1,2 IN	F2528000
07143	0	76700	0	00001		ALS 1	XB FOR S3, S2, AND	F2528010
								F2528020
								F2528030
								F2528040

	07144	0	73400	1	00000		PAX 0,1	S1 RESPECTIVELY.	F2528050
	07145	-0	63400	4	07166		SXD BITP25,4		F2528060
	07146	0	50000	0	05252		CLA OREDO	CHECK TO SEE IT	F2528070
A	07147	0	77100	0	00000	BITP02	ARS	DEFINED BY DO, RELCON,	F2528080
	07150	0	76000	0	00001		LBT	OR DORC. RETURN AS NOT	F2528090
	07151	0	02000	4	00001		TRA 1,4	DEFINED IF NOT DEFINED.	F2528100
	07152	0	50000	0	05253		CLA DEFDO	DEFINED. CHECK TO SEE	F2528110
A	07153	0	77100	0	00000	BITP04	ARS	IF DEFINED BY DO.	F2528120
	07154	0	76000	0	00001		LBT		F2528130
	07155	0	02000	0	07167		TRA BITP30	DEFINED AS RELCON.	F2528140
	07156	0	50000	2	03651		CLA TAG2+2,2	DEFINED BY DO, CHECK	F2528150
	07157	-0	73400	2	00000		PDX 0,2	TO SEE IF N1 IS	F2528160
	07160	0	50000	0	05254	BITP10	CLA N1SBX	VARIABLE. IF SO, RETURN	F2528170
	07161	3	00007	0	00100		TXH 64,0,7	AS UNDEFINED.	F2528180
A	07162	0	77100	0	00000	BITP14	ARS	IF NOT,	F2528190
	07163	0	76000	0	00001		LBT	CONTINUE.	F2528200
	07164	0	02000	0	07151		TRA BITP02+2	SYMBOL HAS VARIABLE N1.	F2528210
	07165	0	50000	2	01100	BITP20	CLA DOTAGZ+2,2	DOSUB, N2.	F2528220
D	07166	-3	00000	0	07170	BITP25	TXL BITP40,0	SUBMLEFT IN ACC.	F2528230
	07167	0	50000	1	03643	BITP30	CLA WRKSC+5,1	RELCON S SYMBOL FROM WRKSC.	F2528240
	07170	-0	53400	4	07166	BITP40	LXD BITP25,4	RESTORE LINKAGE	F2528250
	07171	0	02000	4	00002		TRA 2,4	SYMBOL IN ACC.	F2528260
								*****F2528270	
								COSE TESTS COEFFICIENTS AND OBTAINS OBJECT PROGRAM SYMBOLS FRF2528280	
								THOSE GREATER THAN 1	F2528290
	07172	0	53400	1	05106	COSE	LXA L(6),1	COEFFICIENT INDEX.	F2528300
	07173	0	53400	2	05131		LXA L(3),2	SENSE LIGHT INDEX.	F2528310
	07174	-0	63400	4	05236		SXD LINKC,4	STORE LINKAGE.	F2528320
	07175	0	50000	1	03644	COSE5	CLA WRKSC+6,1	ISOLATE COEFFICIENT.	F2528330
	07176	0	10000	0	07205		TZE COSE08	NO SUB FOR THIS DIM.	F2528340
	07177	0	40200	0	05061		SUB L1DEC		F2528350
	07200	0	10000	0	07205		TZE COSE08	C=1, CHECK NEXT C.	F2528360
	07201	0	76000	2	00144		PSE 100,2	C NOT = 1, SENSE LIGHT.	F2528370
	07202	0	50000	1	03644		CLA WRKSC+6,1	ASSIGN FIXCON SYMBOL	F2528380
	07203	0	07400	4	04601		TSX FIXCON,4	FOR C NOT = 1. STORE IN	F2528390
	07204	0	60100	2	07602		STO ORO00+12,2	ORO+910, OR 11.	F2528400
	07205	2	00002	1	07206	COSE08	TIX COSE10,1,2	BUMP COEF. INDEX.	F2528410
	07206	2	00001	2	07175	COSE10	TIX COSE5,2,1	BUMP S.6. TEST AND LOOP.	F2528420
	07207	-0	53400	4	05236		LXD LINKC,4	RESTORE LINKAGE	F2528430
	07210	0	02000	4	00001		TRA 1,4	AND RETURN.	F2528440
								*****F2528450	
								TESTLO OBTAINS THE TEST LOCATION TO BE THE SYMBOLIC ADDRESS OF2528460	
								OF THE STD INITIALIZING INSTRUCTION.	F2528470
	07211	0	50000	2	03652	TESTLO	CLA TAG2+3,2	INITIALIZE INDEX	F2528480
	07212	-0	73400	2	00000		PDX 0,2	FOR TEST DOTAG.	F2528490
	07213	0	50000	0	05133		CLA L(10)	ISOLATE	F2528500
	07214	0	56000	2	01104		LDQ DOTAGZ+6,2	SXD	F2528510
	07215	-0	77300	0	00003		RQL 3	LOCATION	F2528520
	07216	-0	76300	0	00006		LGL 6	AND PUT	F2528530
	07217	0	76700	0	00003		ALS 3	IN TETLOC	F2528540
	07220	0	60100	0	05255		STO TETLOC	ADDRESS	F2528550
	07221	0	50000	2	01076		CLA DOTAGZ,2	PUT TXL	F2528560
	07222	-0	32000	0	05141		ANA ADMSK	LOCATION	F2528570
	07223	0	76700	0	00022		ALS 18	IN TETLOC	F2528580

07224	-0	60200	0	05255	ORS TETLOC	DECREMENT.	F2528590
07225	0	02000	4	00001	TRA 1,4		F2528600
*****							F2528610
PREFACE TO ORO EXAMINES VARIABLIITY OF X QUANTITY.							F2528620
07226	0	50000	1	03652	PXORO CLA TAG2+3,1	IF X IS	F2528630
07227	-0	73400	2	00000	PDX 0,2	CONSTANT IT IS	F2528640
07230	0	50000	2	01103	CLA DOTAGZ+5,2	LEFT IN THE	F2528650
07231	-0	32000	0	05137	ANA BIT2	DECREMENT OF	F2528660
07232	-0	10000	0	07237	TNZ XORO	ACC.	F2528670
07233	0	50000	2	01103	CLA DOTAGZ+5,2		F2528680
07234	-0	32000	0	05141	ANA ADMSK		F2528690
07235	0	76700	0	00022	ALS 18		F2528700
07236	0	02000	4	00002	TRA 2,4		F2528710
*****							F2528720
XORO FILLS OUT ORO FOR N1, N2, N3, GIVEN DO IN B AND POS IN AF							F2528730
07237	-0	63400	4	07260	XORO SXD XORO32,4		F2528740
07240	0	50000	2	01076	CLA DOTAGZ,2		F2528750
07241	0	77100	0	00017	ARS 15		F2528760
07242	-0	32000	0	05076	ANA L(7)		F2528770
07243	0	60100	0	05235	STO N1N2N3		F2528780
07244	0	50000	0	05067	CLA L(OR0)	ORIGIN OF ORO TABLE.	F2528790
07245	0	40000	0	05130	ADD L(4)	CALCULATES ADDRESS	F2528800
07246	3	00002	1	07250	TXH XORO10,1,2	FOR STORING INTO	F2528810
07247	0	40000	0	05131	ADD L(3)	ORO TABLE.	F2528820
07250	3	00001	1	07252	XORO10 TXH XORO20,1,1		F2528830
07251	0	40000	0	05066	ADD L(17)		F2528840
07252	0	62100	0	07263	XORO20 STA XORO36	STORE ADRS FOR NS.	F2528850
07253	0	53400	1	05131	LXA L(3),1		F2528860
07254	0	56000	0	05235	XORO30 LDQ N1N2N3		F2528870
07255	-0	77300	1	00044	RQL 36,1		F2528880
07256	0	50000	2	01100	CLA DOTAGZ+2,2		F2528890
07257	0	16200	0	07261	TQP XORO34	N IS CONSTANT.	F2528900
07260	-3	00000	0	07263	XORO32 TXL XORO36,0	N IS VARIABLE	F2528910
07261	0	76700	0	00022	XORO34 ALS 18		F2528920
07262	0	07400	4	04601	TSX FIXCON,4		F2528930
07263	0	60100	1	00000	XORO36 STO 0,1		F2528940
07264	2	00001	2	07265	TXI XORO40,2,1		F2528950
07265	2	00001	1	07254	XORO40 TXI XORO30,1,1		F2528960
07266	0	60100	0	07566	STO ORO00		F2528970
07267	-0	53400	4	07260	LXD XORO32,4		F2528980
07270	0	02000	4	00001	TRA 1,4		F2528990
*****							F2529000
THIS ROUTINE EXAMINES A BLOCK OF CONSTANTS AND COMPILES ONE IF							F2529010
INSTRUCTION FOR EACH. THE CALLER INDICATES THE FIRST CONSTANF							F2529020
BY A REFERENCE IN THE ACCUMULATOR, AND INDICATES THE NUMBER OF							F2529030
OF INSTRUCTIONS IN INDEX REGISTER A.							F2529040
07271	-0	63400	4	07336	LXC SXD LXC19,4		F2529050
07272	0	60100	0	05206	STO ERLXC		F2529060
07273	-0	75400	1	00000	PXD 0,1		F2529070
07274	0	77100	0	00022	ARS 18		F2529080
07275	0	40000	0	05206	ADD ERLXC		F2529090
07276	0	62100	0	07312	STA LXC10		F2529100
07277	0	50000	0	05222	CLA LOCIND	TEST TO SEE IF	F2529110
07300	0	10000	0	07310	TZE LXC08	THIS IS THE FIRST	F2529120

07301	0	40200	0	05126	SUB L(1)	LXD COMPILED. IF SO,	F2529130
07302	0	60100	0	05222	STO LOCIND	PLACE A IN	F2529140
07303	-0	53400	2	05230	LXD DOIND,2	DECREMENT	F2529150
07304	0	50000	2	01076	CLA DOTAGZ,2	OF LOCATION WORD	F2529160
07305	-0	32000	0	05142	ANA DECMASK	FOR FIRST COMPILED	F2529170
07306	0	60100	0	05176	STO CIL00	INSTRUCTION.	F2529180
07307	0	02000	0	07312	TRA LXC10		F2529190
07310	0	50000	0	05133	LXC08 CLA L(0)		F2529200
07311	0	60100	0	05176	STO CIL00		F2529210
07312	0	56000	1	00000	LXC10 LDQ 0,1	SKELETAL INSTRUCTION.	F2529220
07313	0	76300	0	00000	LLS 0		F2529230
07314	-0	76300	0	00022	LGL 18		F2529240
07315	-0	60000	0	05177	STQ CIL01	COMPILE OP. WORD.	F2529250
07316	-0	12000	0	07337	TMI LXC20		F2529260
07317	0	62100	0	07320	STA LXC15	SYMBOL ADDR. TYPE INSTRUCTION.	F2529270
07320	0	50000	0	00000	LXC15 CLA		F2529280
07321	0	60100	0	05200	STO CIL02	SYMBOLIC ADDRESS.	F2529290
07322	0	50000	0	05133	CLA L(0)	RELATIVE	F2529300
07323	0	60100	0	05201	STO CIL03	ADDRESS.	F2529310
07324	-0	50000	0	05200	CAL CIL02	TEST CIL02	F2529320
07325	-0	32000	0	05104	ANA 6ONES	WORD.	F2529330
07326	0	10000	0	07344	TZE LXC30	FIRST CHARACTER IS ZERO.	F2529340
07327	-0	32000	0	05102	ANA BIT01		F2529350
07330	-0	10000	0	07344	TNZ LXC30	FIRST CHARACTER ALPHABETIC.	F2529360
07331	-0	50000	0	05200	CAL CIL02	FIRST CHARACTER NUMERIC,	F2529370
07332	0	76700	0	00022	ALS 18	PLACE REIGHT HALF OF CIL02	F2529380
07333	0	62200	0	05201	STD CIL03	IN CIL03, LEFT HALF	F2529390
07334	-0	50000	0	05104	CAL 6ONES	IN CIL02.	F2529400
07335	0	32000	0	05200	ANS CIL02		F2529410
07336	-3	00000	0	07344	LXC19 TXL LXC30,0	SHIF TYPE INSTRUCTION,	F2529420
07337	0	76700	0	00022	LXC20 ALS 18		F2529430
07340	-0	32000	0	05142	ANA DECMASK		F2529440
07341	0	60100	0	05201	STO CIL03		F2529450
07342	0	50000	0	05133	CLA L(0)		F2529460
07343	0	60100	0	05200	STO CIL02		F2529470
07344	0	07400	4	04345	LXC30 TSX CIT,4		F2529480
07345	2	00001	1	07310	TIX LXC08,1,1	COUNT COMPILED INSTR. IN BLK.	F2529490
07346	-0	53400	4	07336	LXD LXC19,4		F2529500
07347	0	02000	4	00001	TRA 1,4		F2529510
						*****	F2529520
07350	0	00000	0	07406	KLX01 LX100		F2529530
07351	0	00000	0	07407	KLX01I LX100+1		F2529540
07352	0	00000	0	07412	KLX02I LX105		F2529550
07353	0	00000	0	07410	KLX02 LX102		F2529560
07354	0	00000	0	07424	KLX03 LX116		F2529570
07355	0	00000	0	07442	KLX05 LX130		F2529580
07356	0	00000	0	07416	KLX03I LX110		F2529590
07357	0	00000	0	07434	KLX05I LX124		F2529600
07360	0	00000	0	07473	K1A0R0 A1C00		F2529610
07361	0	00000	0	07474	K1A0R0 A1C01		F2529620
07362	0	00000	0	07477	K2A0R0 A1000		F2529630
07363	0	00000	0	07500	K3A0R0 A1001		F2529640
07364	0	00000	0	07501	KTX00 TXC00		F2529650
07365	0	00000	0	07507	TXC08		F2529660

07366	0	00000	0	07515		TXC18			F2529670
07367	0	00000	0	07531	KTX04	TXC30			F2529680
07370	0	00000	0	07532	KTX05	TXC31			F2529690
07371	0	00000	0	07534	LTX040	TX040			F2529700
07372	0	00000	0	07536	LTX042	TX042			F2529710
07373	0	00000	0	07456	LXCI	XCI			F2529720
07374	0	00000	0	07466	LXCI6	XCI6			F2529730
07375	0	00000	0	07553	LXCIE	XCIE			F2529740
07376	0	00000	0	07554	LXCIE1	XCIE+1			F2529750
07377	0	00000	0	07563	LXCIEP	XCIEP			F2529760
07400	0	00000	0	07564	LXCEIP	XCEIP			F2529770
07401	0	00000	0	07552	XK	XKI			F2529780
07402	0	00000	0	07452	K1BORO	L(BIC)			F2529790
07403	0	00000	0	07540	LX2CI	X2CI			F2529800
07404	0	00000	0	07467	LXCI61	XCI6+1			F2529810
07405	0	00000	0	07470	LXCI8	XCI8			F2529820
07406	0	07603	2	34321	LXI00	14545,2,OR000+13	CLA		F2529830
07407	0	07620	6	26346		11494,6,OR000+26	STO		F2529840
07410	0	07567	2	34321	LXI02	14545,2,OR000+1	CLA		F2529850
07411	0	07620	6	26346		11494,6,OR000+26	STO		F2529860
07412	0	07567	4	32450	LXI05	13608,4,OR000+1	LDQ		F2529870
07413	0	07577	4	44770		18936,4,OR000+9	MPY		F2529880
07414	-2	00021	2	14362		6386,2,17	ALS	17	F2529890
07415	0	07620	6	26346		11494,6,OR000+26	STO		F2529900
07416	0	07572	4	32450	LXI10	13608,4,OR000+4	LDQ		F2529910
07417	0	07575	4	44770		18936,4,OR000+7	MPY		F2529920
07420	-2	00021	2	14362		6386,2,17	ALS	17	F2529930
07421	0	07575	6	26422		11538,6,OR000+7	SUB		F2529940
07422	0	07620	2	12424		5396,2,OR000+26	ADD		F2529950
07423	0	07620	6	26346		11494,6,OR000+26	STO		F2529960
07424	0	07572	4	32450	LXI16	13608,4,OR000+4	LDQ		F2529970
07425	0	07600	4	44770		18936,4,OR000+10	MPY		F2529980
07426	-2	00022	4	35162		14962,4,18	LRS		F2529990
07427	0	07575	4	44770		18936,4,OR000+7	MPY		F2530000
07430	-2	00021	2	14362		6386,2,17	ALS		F2530010
07431	0	07575	6	26422		11538,6,OR000+7	SUB		F2530020
07432	0	07620	2	12424		5396,2,OR000+26	ADD		F2530030
07433	0	07620	6	26346		11494,6,OR000+26	STO		F2530040
07434	0	07613	4	32450	LXI24	13608,4,OR000+21	LDQ		F2530050
07435	0	07616	4	44770		18936,4,OR000+24	MPY		F2530060
07436	-2	00021	2	14362		6386,2,17	ALS		F2530070
07437	0	07616	6	26422		11538,6,OR000+24	SUB		F2530080
07440	0	07620	2	12424		5396,2,OR000+26	ADD		F2530090
07441	0	07620	6	26346		11494,6,OR000+26	STO		F2530100
07442	0	07613	4	32450	LXI30	13608,4,OR000+21	LDQ		F2530110
07443	0	07601	4	44770		18936,4,OR000+11	MPY		F2530120
07444	-2	00022	4	35162		14962,4,18	LRS		F2530130
07445	0	07616	4	44770		18936,4,OR000+24	MPY		F2530140
07446	-2	00021	2	14362		6386,2,17	ALS		F2530150
07447	0	07616	6	26422		11538,6,OR000+24	SUB		F2530160
07450	0	07620	2	12424		5396,2,OR000+26	ADD		F2530170
07451	0	07620	6	26346		11494,6,OR000+26	STO		F2530180
07452	0	07611	4	32450	L(BIC)	13608,4,OR000+19	LDQ		F2530190
07453	0	07566	4	44770		18936,4,OR000	MPY		F2530200

07454 -2 00021 2 14362  
 07455 0 07602 6 26346  
 07456 0 07570 2 34321 XCI  
 07457 0 07567 6 26422  
 07460 0 07571 2 12424  
 07461 -2 00043 4 35162  
 07462 0 07571 2 46547  
 07463 0 07571 4 44770  
 07464 -2 00022 4 35162  
 07465 0 07577 4 44770  
 07466 -2 00043 4 34362 XCI6  
 07467 0 07603 6 26422  
 07470 0 07605 6 26324 XCI8  
 07471 0 07602 2 12424  
 07472 0 07604 6 26324  
 07473 0 07566 4 32450 A1C00  
 07474 0 07611 4 44770 A1C01  
 07475 -2 00021 2 14362  
 07476 0 07604 6 26324  
 07477 0 07566 2 34321 A1000  
 07500 0 07604 6 26324 A1001  
 07501 0 07570 2 34321 TXC00  
 07502 0 07567 6 26422  
 07503 0 07571 2 12424  
 07504 -2 00043 4 35162  
 07505 0 07571 2 46547  
 07506 0 07571 4 44770  
 07507 0 07573 2 34321 TXC08  
 07510 0 07572 6 26422  
 07511 0 07574 2 12424  
 07512 -2 00043 4 35162  
 07513 0 07574 2 46547  
 07514 0 07574 4 44770  
 07515 0 07614 2 34321 TXC18  
 07516 0 07613 6 26422  
 07517 0 07615 2 12424  
 07520 -2 00043 4 35162  
 07521 0 07615 2 46547  
 07522 0 07615 4 44770  
 07523 -2 00022 4 35162  
 07524 0 07575 4 44770  
 07525 -2 00022 4 35162  
 07526 0 07576 4 44770  
 07527 -2 00022 4 35162  
 07530 0 07601 4 44770  
 07531 -2 00043 4 34362 TXC30  
 07532 0 07621 2 12424 TXC31  
 07533 0 07603 6 26422  
 07534 -2 00022 4 35162 TX040  
 07535 0 07611 4 44770  
 07536 -2 00043 4 34362 TX042  
 07537 0 07604 6 26324  
 07540 0 07573 2 34321 X2CI  
 07541 0 07572 6 26422

TNX 6386,2,17 ALS  
 11494,6,OR000+12 STO  
 14545,2,OR000+2 CLA  
 11538,6,OR000+1 SUB  
 5396,2,OR000+3 ADD  
 TNX 14962,4,35 LRS  
 19815,2,OR000+3 DVP  
 18936,4,OR000+3 MPY  
 TNX 14962,4,18 LRS  
 18936,4,OR000+9 MPY  
 TNX 14578,4,35 LLS  
 11538,6,OR000+13 SUB  
 11476,6,OR000+15 STD  
 5396,2,OR000+12 ADD  
 11476,6,OR000+14 STD  
 13608,4,OR000 LDQ  
 18936,4,OR000+19 MPY  
 TNX 6386,2,17 ALS  
 11476,6,OR000+14 STD  
 14545,2,OR000 CLA  
 11476,6,OR000+14 STD  
 14545,2,OR000+2 CLA  
 11538,6,OR000+1 SUB  
 5396,2,OR000+3 ADD  
 TNX 14962,4,35 LRS  
 19815,2,OR000+3 DVP  
 18936,4,OR000+3 MPY  
 14545,2,OR000+5 CLA  
 11538,6,OR000+4 SUB  
 5396,2,OR000+6 ADD  
 TNX 14962,4,35 LRS  
 19815,2,OR000+6 DVP  
 18936,4,OR000+6 MPY  
 14545,2,OR000+22 CLA  
 11538,6,OR000+21 SUB  
 5396,2,OR000+23 ADD  
 TNX 14962,4,35 LRS  
 19815,2,OR000+23 DVP  
 18936,4,OR000+23 MPY  
 TNX 14962,4,18 LRS  
 18936,4,OR000+7 MPY  
 TNX 14962,4,18 LRS  
 18936,4,OR000+8 MPY  
 TNX 14962,4,18 LRS  
 18936,4,OR000+11 MPY  
 TNX 14578,4,35 LLS  
 5396,2,OR000+27 ADD  
 11538,6,OR000+13 SUB  
 TNX 14962,4,18 LRS  
 18936,4,OR000+19 MPY  
 TNX 14578,4,35 LLS  
 11476,6,OR000+14 STD  
 14545,2,OR000+5 CLA  
 11538,6,OR000+4 SUB

F2530210  
 F2530220  
 F2530230  
 F2530240  
 F2530250  
 F2530260  
 F2530270  
 F2530280  
 F2530290  
 F2530300  
 F2530310  
 F2530320  
 F2530330  
 F2530340  
 F2530350  
 F2530360  
 F2530370  
 F2530380  
 F2530390  
 F2530400  
 F2530410  
 F2530420  
 F2530430  
 F2530440  
 F2530450  
 F2530460  
 F2530470  
 F2530480  
 F2530490  
 F2530500  
 F2530510  
 F2530520  
 F2530530  
 F2530540  
 F2530550  
 F2530560  
 F2530570  
 F2530580  
 F2530590  
 F2530600  
 F2530610  
 F2530620  
 F2530630  
 F2530640  
 F2530650  
 F2530660  
 F2530670  
 F2530680  
 F2530690  
 F2530700  
 F2530710  
 F2530720  
 F2530730  
 F2530740



07542	0	07574	2	12424		5396,2,OR000+6	ADD	F2530750
07543	-2	00043	4	35162	TNX	14962,4,35	LRS	F2530760
07544	0	07574	2	46547		19815,2,OR000+6	DVP	F2530770
07545	0	07574	4	44770		18936,4,OR000+6	MPY	F2530780
07546	-2	00022	4	35162	TNX	14962,4,18	LRS	F2530790
07547	0	07612	4	44770		18936,4,OR000+20	MPY	F2530800
07550	-2	00043	4	34362	TNX	14578,4,35	LLS	F2530810
07551	0	07603	6	26422		11538,6,OR000+13	SUB	F2530820
07552	0	07612	2	34321	XKI	14545,2,OR000+20	CLA	F2530830
07553	-2	00043	4	34362	XCIE	14578,4,35	LLS	F2530840
07554	0	07603	6	26422		11538,6,OR000+13	SUB	F2530850
07555	0	07605	6	26324		11476,6,OR000+15	STD	F2530860
07556	0	07604	6	26324		11476,6,OR000+14	STD	F2530870
07557	0	07605	6	26324	XCIBP	11476,6,OR000+15	STD	F2530880
07560	0	07611	2	12424		5396,2,OR000+19	ADD	F2530890
07561	0	07604	6	26324		11476,6,OR000+14	STD	F2530900
07562	0	00000	0	07557	LXCIBP	XCIBP		F2530910
07563	0	07612	2	34321	XCIEP	14545,2,OR000+20	CLA	F2530920
07564	0	07605	6	26324	XCEIP	11476,6,OR000+15	STD	F2530930
07565	0	07604	6	26324		11476,6,OR000+14	STD	F2530940

\*\*\*\*\*F2530950

		07566	OR000	BSS	12		F2530960
M	07602	+010000000001	OR012	OCT	010000000001		F2530970
	07603	+060000000003		OCT	060000000003		F2530980
		07604	OR014	BSS	12		F2530990
M	07620	+010000000003	OR026	OCT	010000000003	1)+3 SYMBOL.	F2531000

\*\*\*\*\*F2531010

F2531020

\*\*\*\*\*F2531030

F2531040

SYNONYMS

F2531050

01242 ZEKSUM SYN TGTG+100

03650 TAG21 SYN TAG2+1

03651 TAG22 SYN TAG2+2

05256 RTXAC SYN RTX

05256 RTXAC SYN AC

05245 ERAORO SYN ERTX01

05241 CPYWD1 SYN ER40

05242 CPYWD2 SYN ER41

05243 ERDRM1 SYN ARG

05243 ERDRM1 SYN ARG

05246 ERDRM SYN ERTX02

05202 ERAB SYN ERTGA

03636 ADTGA SYN OADTGA+100

03466 ADTGMX SYN ADTG+400

01076 DOTAGZ SYN DOTAG+450

07602 OR012 SYN OR000+12

07603 OR013 SYN OR000+13

07610 OR018 SYN OR000+18

07620 OR026 SYN OR000+26

02336 MXTGTG SYN TGTG+672

02646 MXTGA SYN OMXTGA+200

00004 DIAG EQU 4

00000 END

00R012 07602,07602

F2531250

F2531260

F2531270

A  
A  
A  
A  
A

QOR026 07620,07620  
QRTXAC 05256,05256  
QTAG21 03650,03650  
QTAG22 03651,03651  
ERDRM1 05243,05243

1  
1

## REM BLOCK SIX OF SECTION TWO.

## BLOCK SIX OF SECTION TWO.

MASTER RECORD CARD = FN053

## DOFILE INVERSION ROUTINE--BLOCK 6

		00030	ORG 24	ORIGIN FOR DFI INSTRUCTIONS.	F2600010	
00030	0	77200	0	00224 DFI01	REW 148	F2600020
00031	0	77200	0	00223	REW 147	F2600030
00032	0	76200	0	00224 DFI02	RDS 148	F2600040
00033	0	70000	0	00163	CPY ERAS	F2600050
00034	0	02000	0	00032	TRA DFI02	F2600060
00035	0	02000	0	00037	TRA DFI03	F2600070
00036	0	07400	4	00004	TSX DIAG,4	F2600080
00037	-0	76000	0	00143 DFI03	MSE 99	F2600090
00040	0	02000	0	00044	TRA DFI05	F2600100
00041	0	76000	0	00142	PSE 98	F2600110
00042	0	77000	0	00224 DFI04	WEF 148	F2600120
00043	0	02000	0	00154	TRA EXIT	F2600130
00044	0	53400	1	00156 DFI05	LXA L(0),1	F2600140
00045	-0	76000	0	00143	MSE 99	F2600150
00046	0	76100	0	00000	NOP	F2600160
00047	-0	76000	0	00012	RTT	F2600170
00050	0	76100	0	00000	NOP	F2600180
00051	0	53400	2	00157 DFI10	LXA L(5),2	F2600190
00052	-0	63400	1	00163	SXD ERAS,1	F2600200
00053	0	76200	0	00223 DFI11	RDS 147	F2600210
00054	0	70000	1	00200 DFI12	CPY NOR,1	F2600220
00055	0	02000	0	00060	TRA DFI13	F2600230
00056	0	02000	0	00042	TRA DFI04	F2600240
00057	0	02000	0	00111	TRA DFI20	F2600250
00060	0	70000	1	00201 DFI13	CPY NOR+1,1	F2600260
00061	0	02000	0	00064	TRA DFI14	F2600270
00062	0	07400	4	00004	TSX DIAG,4	F2600280
00063	0	07400	4	00004	TSX DIAG,4	F2600290
00064	0	70000	1	00202 DFI14	CPY NOR+2,1	F2600300
00065	0	02000	0	00070	TRA DFI15	F2600310
00066	0	07400	4	00004	TSX DIAG,4	F2600320
00067	0	07400	4	00004	TSX DIAG,4	F2600330
00070	0	70000	1	00203 DFI15	CPY NOR+3,1	F2600340
00071	0	02000	0	00074	TRA DFI16	F2600350
00072	0	07400	4	00004	TSX DIAG,4	F2600360
00073	0	07400	4	00004	TSX DIAG,4	F2600370
00074	0	50000	1	00201 DFI16	CLA NOR+1,1	F2600380
00075	0	10000	0	00122	TZE DFI30	F2600390
00076	0	40200	0	00160	SUB ALLONE	F2600400
00077	0	10000	0	00107	TZE DFI19	F2600410
00100	-0	76000	0	00143	MSE 99	F2600420
00101	0	02000	0	00104	TRA DFI17	F2600430
00102	-0	50000	0	00161	CAL L(M0)	F2600440
00103	-0	60200	1	00200	ORS NOR,1	F2600450
00104	1	77774	1	00105 DFI17	TXI DFI18,1,-4	F2600460
00105	3	70300	1	00054 DFI18	TXH DFI12,1,-3904	F2600470
00106	0	07400	4	00004	TSX DIAG,4	F2600480
00107	0	76000	0	00143 DFI19	PSE 99	F2600490
00110	0	02000	0	00054	TRA DFI12	F2600500

END OF FILE--GO TO EXIT  
END OF RECORD//GO TO REDUND TEST  
COPY SECOND OF FOUR WORDS  
  
FLASE END OF FILE.  
FALSE END OF RECORD.  
COPY THIRD OF FOUR WORDS  
  
FLASE END OF FILE.  
FALSE END OF RECORD.  
COPY FOURTH OF FOUR WORDS  
  
FLASE END OF FILE.  
FALSE END OF RECORD.  
  
2ND WORD ZERO MEANS END OF NEST  
2ND WORD ALL ONES  
MEANS BEGINNING OF BLOCK  
WAS PREVIOUS FOUR WORDS BEG OF BLOCK  
NO, LEAVE FIRST WORD PLUS  
MAKE SIGN OF  
FIRST WORD MINUS  
INDEX BY 4 FOR NEXT 4 WORDS  
TEST AND CONTINUE NEXT 4 WORDS  
NOR BUFFER SIZE EXCEEDED.  
TURN ON BEGIN OF BLOCK IND  
CONTINUE NEXT FOUR WORDS

**D**

A

## CONSTANTS AND ERAS STORAGE FOR DFI

```

SCAN UP EVERY FOURTH WORD
TO TEST FOR MINUS
SAVE FOR NEXT END OF BLOCK TEST
RESTORE PLUS SIGN TO
FIRST WORD OF BLOCK
SELECT OUTPUT TAPE
PREPARE FOR NEXT 100 WORDS
WRITE BLOCK IN
FORWARD DIRECTION
UNTIL END OF BLOCK
IF WORDS IN RECORD
START ANOTHER RECORD
IF INDEX 1 HAS NOT REACHED 0
PROCESS NEXT BLOCK
RETURN TO PROCESS NEXT NEST
SKIP OVER DIAGNOSTIC RECORD ON SY

```

ORIGIN FOR NOR

F2600900  
F2600910  
F2600920  
F2600930  
F2600940  
F2600950  
F2600960  
F2600970  
F2600980  
F2600990  
F2601000



07146	0	50000	1	02327	TEARG1	CLA AIL,1	2 TEARG1. ROUTINE TO DET. IF TOO FEW ARGS SPECIFIED	F3B12690
07147	0	40200	0	02211	SUB ALLONE		TEST FOR ALL ONES IN 1ST WD OF CUR. INSTR	F3B12700
07150	0	10000	0	02155	TZE ERROR1		ALL ONES. GO TO PROPER STOP	F3B12710
07151	0	02000	4	00001	TRA 1,4		NOT ALL ONES. RETURN	F3B12720
						3 TEARG2. ROUTINE	TO DET. IF TOO MANY ARGS. SPECIFIED	F3B12730
07152	0	50000	1	02327	TEARG2	CLA AIL,1	TEST FOR ALL ONES IN TST WORD OF	F3B12740
07153	0	02000	0	07235	TRA SUBPAT			F3B12750
07154	0	50000	1	02331	ARGTAG	CLA AIL+2,1	PLACE SUMB ADDRESS OF CURRENT ARG	F3B12760
07155	0	60100	0	02324	STO MICW+2		IN MICW+2	F3B12770
07156	0	50000	1	02332	CLA AIL+3,1		PLACE RELATIVE ADD. AND TAG OF CUR-	F3B12780
07157	0	60100	0	02325	STO MICW+3		RENT ARG. IN MICW+3	F3B12790
07160	-0	32000	0	02207	ANA TGMSK		TEST FOR TAG	F3B12800
07161	0	10000	4	00001	TZE 1,4		NO TAG. RETURN	F3B12810
07162	-0	63400	4	07230	SXD C,4		ARG TAGGED. SAVE LINKAGE	F3B12820
07163	-0	76000	0	00143	MSE 99		TEST FOR END OF CHTAG TABLE	F3B12830
07164	0	07400	4	01016	TSX M12500,4		CHTAG TABLE NOT EXHAUSTED.	F3B12840
07165	0	76000	0	00143	PSE 99		END OF CHTAG TABLE. RESTORE IN-	F3B12850
07166	-0	53400	4	07230	LXD C,4		DICATOR AND LINKAGE	F3B12860
07167	0	02000	4	00001	TRA 1,4		RETURN	F3B12870
						THE ROUTINE FOR COMPILING THE OPEN SUBROUTINES DIMAND XDIM		F3B12880
07170	0	76000	0	00144	XDIM	PSE 100	TURN ON SENSE LIGHT 100 FOR XDIM	F3B12890
07171	0	07400	4	07146	DIM	TSX TEARG1,4	TEST NO. OF ARGS SPECIFIED	F3B12900
07172	0	07400	4	07154		TSX ARGTAG,4	TEST WHETHER FIRST ARG. IS TAGGED	F3B12910
07173	1	77774	1	07174	01	TXI 01,1,-4	INDEX COMPAIL RECORD TO BEG. OF NEXT REC.	F3B12920
07174	0	07400	4	07136		TSX TEST,4	TEST FOR END OF CURRENT AIL RECORD	F3B12930
07175	0	07400	4	07152		TSX TEARG2,4	TEST NO. OF ARGS. SPECIFIED	F3B12940
07176	0	07400	4	00707		TSX CIT00,4	COMPILE FIRST INST. FOR DIM AND XDIM	F3B12950
07177	0	00000	0	02322		HTR MICW	LOCATION (1ST WD)	F3B12960
07200	0	00000	0	02215		HTR L(CLA)	CLA(2ND WD.)	F3B12970
07201	0	00000	0	02324		HTR MICW+2	FIRST ARG (3RD WD)	F3B12980
07202	0	00000	0	02325		HTR MICW+3	REL. ADD END TAG OF 1ST ARG (4TH WD)	F3B12990
07203	0	07400	4	07154		TSX ARGTAG,4	TEST WHETHER 2ND. ARG TAGGED ETC.	F3B13000
07204	-0	50000	0	07231		CAL L(SUB)	PREPARE OP. WD (2ND WD) OF 2ND AIL	F3B13010
07205	-0	76000	0	00144		MSE 100	ENTRY. OP. IS SUB. FOR XDIM	F3B13020
07206	-0	50000	0	07232		CAL L(FSB)	FSB FOR DIM	F3B13030
07207	0	60200	0	02323		SLW MICW+1		F3B13040
07210	0	07400	4	00707		TSX CIT00,4	COMPILE 2ND INST FOR DIM OR XDIM	F3B13050
07211	0	00000	0	02170		HTR L(0)	0 (1ST WD)	F3B13060
07212	0	00000	0	02323		HTR MICW+1	SUB(XDIM), FSB(DIM) (2ND. WD)	F3B13070
07213	0	00000	0	02324		HTR MICW+2	2ND. ARG (3RD WD)	F3B13080
07214	0	00000	0	02325		HTR MICW+3	REL. ADD AND TAG OF 2ND ARG (4TH WD)	F3B13090
07215	0	07400	4	00707		TSX CIT00,4	COMPILE 3RD INST FOR DIM AND XDIM	F3B13100
07216	0	00000	0	02170		HTR L(0)	0(1ST WD)	F3B13110
07217	0	00000	0	07233		HTR L(TPL)	TPL(2ND WD)	F3B13120
07220	0	00000	0	02245		HTR L(017)	OCT. 17 IN BITS 5-5	F3B13130
07221	0	00000	0	02177		HTR L(2D)	REL. ADD 2, TAG 0 (4TH WD)	F3B13140
07222	0	07400	4	00707		TSX CIT00,4	COMPILE LAST INST FOR DIM AND XDIM	F3B13150
07223	0	00000	0	02170		HTR L(0)	0 (1STWD)	F3B13160
07224	0	00000	0	07234		HTR L(PXD)	PXD (2ND WD)	F3B13170
07225	0	00000	0	02170		HTR L(0)	0 (3RD WD)	F3B13180
07226	0	00000	0	02170		HTR L(0)	0 (4TH WD)	F3B13190
07227	1	77774	1	00774		TXI RESUME,1,-4	INDEX CUR AIL RECORD TO BEGINNING	F3B13200
							OF NEXT 4WD INST AND RETURN TO MAIN PROG	F3B13210
								F3B13220

F3B13230  
F3B13240

THE 25 COMPL OF THE LENGTH OF  
M1D2. THIS CARD MUST BE CHANGED WHEN  
ADDITIONS TO M1D2 ARE MADE

```
02170 L(0) - SYN 1144
01306 M13505 SYN 710
02312 CCELL SYN 1226
02305 M1ALWN SYN 1221
00341 M10210 SYN 225
02327 AIL SYN 1239
02211 ALLONE SYN 1161
02155 ERROR1 SYN 1133
02163 ERROR2 SYN 1139
02322 MICW SYN 1234
02207 TGMSK SYN 1159
01016 M12500 SYN 526
```

CONSTANS USED IN COMPILING THE OPEN SUBRTNS. XDIM AND DIM

```

00707 CIT00 SYN 455
02215 L(CLA) SYN 1165
07231 626422000000 L(SUB) BCD 1SUB000
07232 266222000000 L(FSB) BCD 1FSB000
07233 634743000000 L(TPL) BCD 1TPL000
07234 476724000000 L(PXD) BCD 1PXD000

```

```
02245 L(017) SYN 1189
02177 L(2D) SYN 1151
00774 RESUME SYN 508
```

```

07235 0 40200 0 02211 SUBPAT SUB ALLONE
07236 0 10000 4 00001 TZE 1.4
07237 0 02000 0 02163 TRA ERROR2

```

```

A      07237 0 02000 0 02185 TRA ERROR2
      07240 0 00000 0 00000 ROOM HTR SPACE FROM ROOM MAY BE USED FOR ADD. OPEN SUB. COMPILATION
      07071 END 3641

```

F3B13230  
F3B13240  
F3B13250  
F3B13260  
F3B13270  
F3B13280  
F3B13290  
F3B13291  
F3B13292  
F3B13293  
F3B13294  
F3B13295  
F3B13300  
F3B13301  
F3B13302  
F3B13303  
F3B13304  
F3B13305  
F3B13310  
F3B13320  
F3B13330  
F3B13340  
F3B13350  
F3B13360  
F3B13370  
F3B13380  
F3B13390  
F3B13400  
F3B13401  
F3B13402  
F3B13403  
F3B13414

1  
1

REM MASTER RECORD CARD = FN056

MASTER RECORD CARD = FN056

THE FOLLOWING PROGRAM CONSTITUTES THE FIRST SECTION OF THE  
MERGE. IT PERFORMS THE INITIAL MERGE OF THE AIL FILE AND THE  
DO FILE OF COMPILED INSTRUCTIONS. IN ADDITION TO MERGING  
THESE TWO FILES, IT INSERTS THE ARITHMETIC OPEN SUBROUTINES  
IN THEIR CORRECT POSITION IN THE FILE OF COMPILED INSTRUCT-  
IONS AND EFFECTS APPROPRIATE GENERALIZED TAG CHANGES IN AIL  
FILE INSTRUCTIONS

		00030	ORG 24		F3B00010	
			TAPE POSITIONING TO READ FORTAG INTO CORE STORAGE		F3B00020	
00030	0	53400	1	02164	LXA M1ECTR,1	F3B00030
00031	0	76200	0	00222	M10000 RDS 146	F3B00040
00032	0	70000	0	05737	CPY ERAS	F3B00050
00033	0	07400	2	00064	TSX M10043,2	F3B00060
00034	0	76100	0	00031	NOP M10000	F3B00070
00035	-0	53400	1	05737	LXD ERAS,1	F3B00080
00036	1	00007	1	00037	TXI M10010,1,7	F3B00090
00037	0	76400	0	00222	M10010 BST 146	F3B00100
00040	2	00001	1	00037	TIX M10010,1,1	F3B00110
				READ FORTAG INTO CORE STORAGE	F3B00120	
00041	-0	76000	0	00012	RTT	F3B00130
00042	0	76100	0	00000	NOP	F3B00140
00043	0	53400	1	02164	LXA M1ECTR,1	F3B00150
00044	0	76200	0	00222	M10020 RDS 146	F3B00160
00045	0	70000	0	02326	CPY FORTAG-1	F3B00170
00046	0	50000	0	02326	CLA FORTAG-1	F3B00180
00047	0	40200	0	02174	SUB MICON+4	F3B00190
00050	0	10000	0	00052	TZE M10030	F3B00200
00051	0	07400	4	00004	TSX 4,4	F3B00210
00052	0	70000	0	02326	M10030 CPY FORTAG-1	F3B00220
00053	0	50000	0	02326	CLA FORTAG-1	F3B00230
00054	0	10000	0	00061	TZE M10040	F3B00240
00055	0	53400	2	02170	LXA MICON,2	F3B00250
00056	0	70000	2	02327	M10035 CPY FORTAG,2	F3B00260
00057	1	77777	2	00056	TXI M10035,2,-1	F3B00270
00060	0	07400	4	00004	TSX 4,4	F3B00280
00061	0	07400	2	00064	M10040 TSX M10043,2	F3B00290
00062	0	76100	0	00044	NOP M10020	F3B00300
00063	0	02000	0	00075	TRA M10050	F3B00310
00064	0	76600	0	00333	M10043 WRS 219	F3B00320
00065	-0	76000	0	00012	RTT	F3B00330
00066	0	02000	0	00070	TRA M10045	F3B00340
00067	0	02000	2	00002	TRA 2,2	F3B00350
00070	0	50000	2	00001	M10045 CLA 1,2	F3B00360
00071	0	62100	0	00073	STA M10048	F3B00370
00072	0	76400	0	00222	BST 146	F3B00380
00073	2	00001	1	00000	M10048 TIX 0,1,1	F3B00390
00074	0	07400	4	00004	TSX 4,4	F3B00400
				POSITIONING OF TAPE 2, TAPE 3, TAPE 4, TO READ COMPAIL	F3B00410	
				WRITE MERGE 1, AND READ DO FILE, RESP.	F3B00420	
00075	0	77200	0	00223	M10050 REW 147	F3B00430
00076	0	77200	0	00224	REW 148	F3B00440
00077	0	76200	0	00224	RDS 148	F3B00450
				REWIND TAPE 3 TO WRITE MERGE 1.	F3B00460	
				REWIND TAPE 4 FOR COMPDO FILE.	F3B00470	
				SPACE OVER TRALEV THE 1ST FILE ON	F3B00480	
					F3B00490	
					F3B00500	
					F3B00510	
					F3B00520	



00100	0	70000	0	05737	M10055	CPY ERAS	TAPE 4 TO GET TO FIRST RECORD	F3B00530
00101	0	02000	0	00100		TRA M10055	OF COMPDO FILE.	F3B00540
00102	0	02000	0	00104		TRA M10060	END OF TRALEV FILE.	F3B00550
00103	0	02000	0	00077		TRA M10055-1	SPACE OVER NEXT TRALEV RECORD.	F3B00560
00104	0	53400	2	02170	M10060	LXA M1CON,2	LOAD 0 INTO IRB.	F3B00570
00105	1	00021	2	00106		TXI M10060+2,2,17		F3B00580
00106	0	76400	0	00222		BST 146	BACKSPACE BINARY TAPE 2 BY	F3B00590
00107	2	00001	2	00106		TIX M10060+2,2,1	13 RECORDS TO POSITION TAPE 2	F3B00600
00110	0	53400	1	02164		LXA M1ECTR,1	TO READ COMPAIL RECORD COUNT FILE.	F3B00610
00111	0	76200	0	00222	M10063	RDS 146		F3B00620
00112	0	70000	0	05737		CPY ERAS		F3B00630
00113	0	07400	2	00064		TSX M10043,2		F3B00640
00114	0	76100	0	00111		NOP M10063	BACKSPACE TAPE 2 OVER COMPAIL	F3B00650
00115	0	53400	2	05737		LXA ERAS,2	RECORD COUNT, A EOF MARK, AND	F3B00660
00116	1	00002	2	00117		TXI M10070,2,2	OVER COMPAIL RECORDS	F3B00670
00117	0	76400	0	00222	M10070	BST 146	TO POSITION TAPE 2 TO FIRST	F3B00680
00120	2	00001	2	00117		TIX M10070,2,1	RECORD OF COMPAIL FILE.	F3B00690
00121	-0	76000	0	00141		MSE 97	TURN-OFF SENSE LIGHTS 1,3, AND 4.	F3B00700
00122	0	76100	0	00000		NOP	SENSE LIGHT 2 USED BY SEC. 2	F3B00710
00123	-0	76000	0	00143		MSE 99	TO INDICATE TO SEC. 3 THERE	F3B00720
00124	0	76100	0	00000		NOP	ARE NO COMPDO INSTR IF	F3B00730
00125	-0	76000	0	00144		MSE 100	LIGHT 2 IS ON.	F3B00740
00126	0	76100	0	00000		NOP		F3B00750
						CHANGE TAG TABLE EDIT		F3B00760
00127	0	53400	4	02164	PEC00	LXA M1ECTR,4	LOAD 5 INTO IRC DR RD ERROR CTR.	F3B00770
00130	0	76200	0	00303	PEC01	RDS 195	UNEDITED CHTG TABLE ON LOG DR 3.	F3B00780
00131	0	46000	0	02170		LDA M1CON	0=DR ORG UCHTG - 2	F3B00790
00132	0	70000	0	05737		CPY ERAS	TABLE LENGTH TO ERAS	F3B00800
00133	0	70000	0	05740		CPY ERAS+1	CHECK SUM INTO ERAS+1.	F3B00810
00134	-0	50000	0	05737		CAL ERAS	CHECK DRUM READ	F3B00820
00135	0	40200	0	05740		SUB ERAS+1	TEST IF TABLE LENGTH READ	F3B00830
00136	0	10000	0	00141		TZE PEC02	CORRECTLY FROM DRUM 3.	F3B00840
00137	2	00001	4	00130		TIX PEC01,4,1	READ DRUM 5 TIMES IF LENGTH WRONG.	F3B00850
00140	0	07400	4	00004		TSX 4,4	DRUM READ 5 TIMES UNSUCCESSFULLY.	F3B00860
00141	0	53400	4	02164	PEC02	LXA M1ECTR,4	LOAD 5 INTO IRC DR RD ERROR CTR.	F3B00870
00142	0	50000	0	05737	PEC03	CLA ERAS	TEST IF THERE ARE ANY ENTRIES	F3B00880
00143	0	10000	0	00235		TZE PEC20	IN CHG TAG TABLE.	F3B00890
00144	0	73400	3	00000		PAX 0,3	UNEDITED TABLE LENGTH TO IRA, IRB	F3B00900
00145	0	40200	0	00154		SUB PEC05	COMPUTE CORE ADDRESS INTO WHICH	F3B00910
00146	0	62100	0	00151		STA PEC04	CHG TAG TABLE ENTRIES TO BE	F3B00920
00147	0	76200	0	00303		RDS 195	READ PLUS TABLE LENGTH FOR TIX OPER.	F3B00930
00150	0	46000	0	02172		LDA M1CON+2	DRUM READ ADDRESS OF 2.	F3B00940
00151	0	70000	1	00000	PEC04	CPY 0,1	READ CHG TAG TABLE INTO UCHTG BLOCK	F3B00950
00152	2	00001	1	00151		TIX PEC04,1,1		F3B00960
00153	0	53400	1	02170		LXA M1CON,1	LOAD 0 INTO IRA.	F3B00970
00154	-0	50000	1	05263	PEC05	CAL UCHTG,1	UNEDITED CHG TAG TABLE ENTRIES CONSIST	F3B00980
00155	0	36100	1	05264		ACL UCHTG+1,1	OF 3 WORDS. TEST LOG SUM OF	F3B00990
00156	0	40200	1	05265		SUB UCHTG+2,1	2 WORDS EQUALS DRUM CHECK	F3B01000
00157	0	10000	0	00162		TZE PEC06	SUM FOR THE ENTRY.	F3B01010
00160	2	00001	4	00142		TIX PEC03,4,1	DRUM READ ERROR. TRY 5 TIMES.	F3B01020
00161	0	07400	4	00004		TSX 4,4	DRUM READ 5 TIMES UNSUCCESSFULLY.	F3B01030
00162	1	77775	1	00163	PEC06	TXI PEC07,1,-3	MODIFY TABLE ADDR FOR NEXT 3 WORDS.	F3B01040
00163	2	00003	2	00154	PEC07	TIX PEC05,2,3	TEST FOR END CHG TAG BLOCK	F3B01050
						BEGIN EDIT OF UCHTG		F3B01060

00164	0	53400	3	02170	PEC10	LXA MICON,3	LOAD 0 INTO IRA, IRB	F3801070
00165	0	50000	0	05740		CLA ERAS+1	PUT UCHTG TABLE LENGTH IN ADDRESS AND	F3801080
00166	-0	50100	0	02326		ORA FORTAG-1	FORTAG TABLE LENGTH IN DECREMENT	F3801090
00167	0	76000	0	00006		COM 0	PORTIONS OF ACCUM.	F3801100
00170	0	40000	0	02212		ADD MICON+18	OBTAIN 25 COMP OF FORTAG	F3801110
00171	0	62200	0	00213		STD PEC16	LENGTH AND UCHTG LENGTH AND	F3801120
00172	0	76700	0	00022		ALS 18	STORE IN DEC OF TEST INST.	F3801130
00173	0	62200	0	00211		STD PEC14		F3801140
00174	0	50000	1	02327	PEC11	CLA FORTAG,1	SUCCESSIVE DUPLICATES IN	F3801150
00175	0	34000	1	02330		CAS FORTAG+1,1	FORTAG TABLE NOT COMPARED TO	F3801160
00176	0	02000	0	00200		TRA PEC12	UCHTG TABLE ENTRIES.	F3801170
00177	1	77777	1	00174		TXI PEC11,1,-1	IRA KEEPS TRACK OF FORTAG ENTRIES.	F3801180
00200	0	76700	0	00022	PEC12	ALS 18	IRC KEEPS TRACK OF UCHTG ENTRIES.	F3801190
00201	0	60100	0	05737		STO ERAS	MOVE TAG OF CURRENT FORTAG ENTRY	F3801200
00202	0	53400	4	02170		LXA MICON,4	INTO DECREMENT AND COMPARE WITH	F3801210
00203	0	50000	4	05264	PEC13	CLA UCHTG+1,4	TAG1 IN DECREMENT OF UCHTG	F3801220
00204	-0	32000	0	02205		ANA MICON+13	ENTRIES. IF TAGS ARE EQUAL,	F3801230
00205	0	34000	0	05737		CAS ERAS	TEST FORTAG INTERNAL	F3801240
00206	1	77775	4	00211		TXI PEC14,4,-3	FORMULA LIES WITHIN RANGE	F3801250
00207	0	02000	0	00243		TRA PEC30	GIVEN IN FIRST WORD	F3801260
00210	1	77775	4	00211		TXI PEC14,4,-3	OF UCHTG ENTRY.	F3801270
00211	3	00000	4	00203	PEC14	TXH PEC13,4	25 COMP OF UCHTG LENGTH IN DECREMENT.	F3801280
00212	1	77777	1	00213	PEC15	TXI PEC16,1,-1	END OF UCHTG TABLE.	F3801290
00213	3	00000	1	00174	PEC16	TXH PEC11,1	25 COMP OF FORTAG LENGTH IN DECREMENT.	F3801300
						END OF EDIT, COMPUTE CHTGE2		F3801310
00214	-0	75400	2	00000	PEC17	PXD 0,2	END OF FORTAG TABLE.	F3801320
00215	0	60100	0	02274		STO CHTGL	SAVE VALUE OF IRB FROM	F3801330
00216	0	50000	0	02170		CLA MICON	EDIT CHG TAG TABLE ROUTINE	F3801340
00217	0	60100	0	02275		STO CHTGE1	AS TABLE LENGTH CONTROL	F3801350
00220	0	53400	4	02170		LXA MICON,4	WORD FOR CHANGE TAG TABLE	F3801360
00221	0	50000	4	05741		CLA CHTG,4	SEARCH ROUTINE AT M12500.	F3801370
00222	0	60100	0	02277		STO CHTGFN	CALCULATE NUMBER OF ENTRIES	F3801380
00223	1	77776	4	00224	PEC18	TXI PEC18+1,4,-2	IN EDITED CHG TAG TABLE WITH	F3801390
00224	-0	75400	4	00000		PXD 0,4	SAME INTERNAL FORMULA	F3801400
00225	0	40200	0	02274		SUB CHTGL	NUMBER AND RECORD IN	F3801410
00226	0	10000	0	00232		TZE PEC19	CONTROL WORDS CHTGE1 AND CHTGE2	F3801420
00227	0	50000	4	05741		CLA CHTG,4	TO PREVENT SEARCHING ENTIRE	F3801430
00230	0	40200	0	02277		SUB CHTGFN	EDITED CHG TAG TABLE IN	F3801440
00231	0	10000	0	00223		TZE PEC18	SEARCH AT M12500.	F3801450
00232	-0	75400	4	00000	PEC19	PXD 0,4		F3801460
00233	0	60100	0	02276		STO CHTGE2		F3801470
00234	0	02000	0	00271		TRA RST000		F3801480
						ROUTINE FOR EMPTY UCHTG TABLE		F3801490
00235	0	50000	0	02170	PEC20	CLA MICON	PLACE ZEROS INTO 3 CONTROL	F3801500
00236	0	60100	0	02274		STO CHTGL	WORDS FOR CHANGE TAG TABLE SEARCH	F3801510
00237	0	60100	0	02275		STO CHTGE1	ROUTINE TO INDICATE NO ENTRIES	F3801520
00240	0	60100	0	02276		STO CHTGE2	IN EDITED CHG TAG TABLE.	F3801530
00241	0	76000	0	00143		PSE 99	SENSE LIGHT 3 TURNED ON TO INDICATE	F3801540
00242	0	02000	0	00271		TRA RST000	NO ENTRIES IN EDITED CHG TAG TABLE	F3801550
						SEARCH FOR INT FMLA NO OF CUR. FORTAG ENTRY IN UCHTG		F3801560
00243	0	50000	1	02327	PEC30	CLA FORTAG,1	TAG OF FORTAG ENTRY EQUAL	F3801570
00244	-0	32000	0	02205		ANA MICON+13	TO TAG1 OF UCHTG ENTRY.	F3801580
00245	0	60100	0	02273		STO COMBOX	TEST FORTAG INTERNAL FORMULA	F3801590
00246	0	50000	4	05263		CLA UCHTG,4	NUMBER LIES WITHIN RANGE	F3801600

00247	-0	32000	0	02205	ANA M1CON+13	GIVEN IN FIRST WORD OF UCHTG	F3B01610
00250	0	34000	0	02273	CAS COMBOX	ENTRY. IF RANGE CONDITION IS	F3B01620
00251	1	77775	4	00211	TXI PEC14,4,-3	SATISFIED, PRODUCE ENTRY	F3B01630
00252	1	77775	4	00211	TXI PEC14,4,-3	FOR EDITED CHG TAG TABLE.	F3B01640
00253	0	50000	4	05263	CLA UCHTG,4	EDITED CHG TAG ENTRY CONSISTS	F3B01650
00254	0	76700	0	00026	ALS 22	OF 2 WORDS. FIRST WORD HAS	F3B01660
00255	0	77100	0	00004	ARS 4	INTERNAL FORMULA NUMBER	F3B01670
00256	0	34000	0	02273	CAS COMBOX	IN DECREMENT AND ZEROS IN	F3B01680
00257	0	02000	0	00262	TRA PEC31	ADDRESS. SECOND WORD HAS	F3B01690
00260	0	02000	0	00262	TRA PEC31	TAG1 IN DECREMENT AND TAG2	F3B01700
00261	1	77775	4	00211	TXI PEC14,4,-3	IN ADDRESS TAKEN FROM 2ND	F3B01710
00262	0	50000	0	02273	PEC31 CLA COMBOX	WORD OF UCHTG ENTRY. CONTINUE	F3B01720
00263	0	60100	2	05741	STO CHTG,2	WITH FORTAG AND UCHTG TAG	F3B01730
00264	0	50000	4	05264	CLA UCHTG+1,4	COMPARISON LOOP UNTIL FORTAG	F3B01740
00265	0	60100	2	05742	STO CHTG+1,2	TABLE EXHAUSTED.	F3B01750
00266	1	77776	2	00267	TXI PEC32,2,-2		F3B01760
00267	3	76646	2	00212	PEC32 TXH PEC15,2,-602	CHTG BLOCK EXCEEDS ALLOCATED 600 WORDS	F3B01770
00270	0	07400	4	00004	TSX 4,4	CHTG BLOCK EXCEEDS ALLOCATED 600 WORDS.	F3B01780
					SXTX TABLE READ	ROUTINE	F3B01790
00271	-0	76000	0	00142	RST000 MSE 98	TEST IF DO FILE EMPTY.	F3B01800
00272	0	02000	0	00274	TRA RST005-1	SENSE LIGHT 2 ON INDICATES	F3B01810
00273	0	02000	0	00340	TRA M10200	NO SXTX ENTRIES.	F3B01820
00274	0	53400	4	02164	LXA M1ECTR,4	LOAD 5 INTO IRC DR RD ERROR CTR.	F3B01830
00275	0	76200	0	00301	RST005 RDS 193	SXDTX TABLE ON LOGICAL DRUM 1,	F3B01840
00276	0	46000	0	02213	LDA M1CON+19	STARTING AT LOCATION 202	F3B01850
00277	0	70000	0	05737	CPY ERAS	1ST WORD IS ORIGIN + 2+ TAB LENGTH.	F3B01860
00300	0	70000	0	05740	CPY ERAS+1	2ND DR WD IS CK SUM FOR 1ST WD.	F3B01870
00301	-0	50000	0	05737	CAL ERAS	SXDTX TABLE ENTRY HAS 3 WORDS.	F3B01880
00302	0	40200	0	05740	SUB ERAS+1	THIRD WORD IS CHECK SUM.	F3B01890
00303	0	10000	0	00306	TZE RST020	TEST THAT FIRST 2 WORDS OFF	F3B01900
00304	2	00001	4	00275	TIX RST005,4,1	DRUM READ CORRECTLY.	F3B01910
00305	0	07400	4	00004	TSX 4,4	DRUM READ 5 TIMES UNSUCCESSFULLY.	F3B01920
00306	0	53400	4	02164	RST020 LXA M1ECTR,4	LOAD 5 INTO IRC DR RD ERROR CTR	F3B01930
00307	0	50000	0	05737	RST021 CLA ERAS	SUBTRACT ORIGIN+2 FROM FIRST	F3B01940
00310	0	40200	0	02214	SUB M1CON+20	WORD TO GET SXDTX TABLE LENGTH.	F3B01950
00311	-0	10000	0	00314	TNZ RST030		F3B01960
00312	0	60100	0	02300	STO SXTXL	STORE 0 AS SXDTX LENGTH IF NO	F3B01970
00313	0	02000	0	00340	TRA M10200	ENTRIES AND GO TO READ AIL RTN.	F3B01980
00314	0	60100	0	02300	RST030 STO SXTXL	STORE SXDTX LENGTH AND LOAD	F3B01990
00315	0	73400	3	00000	PAX 0,3	SXDTX LENGTH INTO IRA, IRB.	F3B02000
00316	0	40200	0	00327	SUB RST040+3	CALC. ADDRESS TO READ IN SXTX TABLE.	F3B02010
00317	0	62100	0	00324	STA RST040	INITIAL WORD OF TABLE IS	F3B02020
00320	0	62100	0	00466	STA M10305	FORTAG + 300. INITIALIZE	F3B02030
00321	0	62100	0	00474	STA M10310+1	ADDRESSES FOR SXTX TABLE SEARCH.	F3B02040
00322	0	76200	0	00301	RDS 193	READ SXTX ENTRIES FROM	F3B02050
00323	0	46000	0	02214	LDA M1CON+20	DRUM 1, LOC. 204.	F3B02060
00324	0	70000	2	00000	RST040 CPY 0,2	CPY LOOP	F3B02070
00325	2	00001	2	00324	TIX RST040,2,1	SXTX TABLE LENGTH IN IRB.	F3B02080
00326	0	53400	2	02170	LXA M1CON,2		F3B02090
00327	-0	50000	2	03003	CAL SXTX,2	TEST LOGICAL SUM OF 1ST TWO	F3B02100
00330	0	36100	2	03004	ACL SXTX+1,2	WORDS EQUAL CHECK SUM IN 3RD	F3B02110
00331	0	40200	2	03005	SUB SXTX+2,2	WORD FOR EACH SXTX ENTRY.	F3B02120
00332	0	10000	0	00335	TZE RST060	PROGRAM AUTOMATICALLY TRIES	F3B02130
00333	2	00001	4	00307	TIX RST021,4,1	RE-READING DRUM 3 TIMES IF ERROR.	F3B02140

00334	0	07400	4	00004		TSX 4,4	DRUM READ 5 TIMES UNSUCCESSFULLY.	F3802150
00335	1	77775	2	00336	RST060	TXI RST060+1,2,-3		F3802160
00336	2	00003	1	00327		TXI RST040+3,1,3	SXTX TABLE LENGTH IN IRA.	F3802170
00337	0	02000	0	00340		TRA M10200	SXTX TABLE IN CORES SUCCESSFULLY.	F3802180
						READ AIL, READ DO ROUTINES		F3802190
00340	0	53400	4	02170	M10200	LXA MICON,4	0 IN IRC WHEN SKIPPING CLOSED SRTNS.	F3802200
00341	0	50000	0	02171	M10210	CLA MICON+1	STORE 1 IN M1TRC, TP 2.	F3802210
00342	0	60100	0	02306		STO M1TRC	READ ERROR COUNTER.	F3802220
00343	0	76200	0	00222	M10220	RDS 146	READ 1 RECORD OF AIL, THE 2ND	F3802230
00344	0	53400	1	02170		LXA MICON,1	FILE ON TP 2 ALREADY POSITIONED.	F3802240
00345	0	70000	1	02327	M10230	CPY AIL,1	AIL REC. READ OVER FORTAG FILE.	F3802250
00346	1	77777	1	00345		TXI M10230,1,-1	IRA GIVES POSITION IN AIL RECORD.	F3802260
00347	0	02000	0	00521		TRA M10800	END OF AIL FILE.	F3802270
00350	0	76600	0	00333		WRS 219	END OF AIL RECORD.	F3802280
00351	-0	76000	0	00012		RTT		F3802290
00352	0	02000	0	00501		TRA M10700	REDUNDANCY WHEN READING TP 2.	F3802300
00353	-0	63400	1	02305	M10240	SXD MIALWN,1	STORE 2S COMPL AIL WORD COUNT	F3802310
00354	0	53400	1	02170		LXA MICON,1	IN CURRENT AIL REC, USUALLY 100	F3802320
00355	-0	75400	4	00000		PXD 0,4	RD RTN ENTRY VIA TSX	F3802330
00356	0	10000	0	00360		TZE PAT1	ROUTINE TO SKIP OVER FORTRAN FUNCTIONS	F3802340
00357	0	02000	4	00002	RET1	TRA 2,4	IRC VALUE SET BY TSX RETURN F FCN TEST	F3802350
00360	-0	50000	1	02327	PAT1	CAL AIL,1	A FORTRAN FCN, A CLOSED SUBRTN,	F3802360
00361	-0	32000	1	02330		ANA AIL+1,1	IS IDENTIFIED BY 4 WORDS	F3802370
00362	-0	32000	1	02331		ANA AIL+2,1	FILLED WITH 1 BITS.	F3802380
00363	-0	32000	1	02332		ANA AIL+3,1	TEST IF AIL ENTRY IS ALL 1 BITS,	F3802390
00364	0	60200	0	05737		SLW ERAS	INDICATES SUCCEEDING ENTRIES	F3802400
00365	0	50000	0	05737		CLA ERAS	BELONG TO A FORTRAN FCN AND	F3802410
00366	0	40200	0	02211		SUB MICON+17	ARE SKIPPED OVER HERE.	F3802420
00367	-0	10000	0	00410		TNZ PAT5	AIL ENTRY NOT A FORTRAN FCN.	F3802430
00370	0	50000	0	02176		CLA MICON+6	AIL ENTRY IS A FORTRAN FCN.	F3802440
00371	0	62200	0	00411		STD PAT5+1	STORE 1 IN DECRE. F FCN EXISTS.	F3802450
00372	1	77774	1	00420		TXI OUT34,1,-4	TO TEST IF LAST AIL INSTR OF BUFFER.	F3802460
00373	-0	75400	1	00000	PAT2	PXD 0,1	COMPARE NO. CURRENT WORD OF	F3802470
00374	0	34000	0	02305		CAS MIALWN	AIL REC WITH AIL REC COUNT	F3802480
00375	0	02000	0	00400		TRA PAT3	TO TEST IF LAST INSTR IN REC.	F3802490
00376	0	07400	4	00341		TSX M10210,4	READ NEXT AIL RECORD.	F3802500
00377	0	07400	4	00004		TSX 4,4	WD COUNT NOT EQUAL TO REC COUNT	F3802510
00400	0	50000	1	02327	PAT3	CLA AIL,1	TEST IF OPEN SUBRTN END,	F3802520
00401	-0	10000	0	00403		TNZ PAT4	BY 1S IN FIRST WORD OF ENTRY.	F3802530
00402	1	77774	1	00373		TXI PAT2,1,-4	0S IN 1ST WORD INDICATES F FCN ENTRY	F3802540
00403	0	40200	0	02211	PAT4	SUB MICON+17	-377777777777.	F3802550
00404	-0	10000	0	00410		TNZ PAT5	1ST DESIRED AIL ENTRY FOUND	F3802560
00405	-0	50000	1	02327		CAL AIL,1	TEST IF CURRENT ENTRY	F3802570
00406	-0	32000	1	02330		ANA AIL+1,1	AN OPEN SUBRTN END OR	F3802580
00407	0	02000	0	00412		TRA OUT24	ANOTHER FORTRAN FCN.	F3802590
00410	0	53400	4	02170	PAT5	LXA MICON,4		F3802600
00411	-3	00000	0	00426		TXL M10250	UNCON. TR TO READ IN DO RECORD.	F3802610
00412	-0	32000	1	02331	OUT24	ANA AIL+2,1	CONTINUATION OF TEST IF	F3802620
00413	-0	32000	1	02332		ANA AIL+3,1	CURRENT ENTRY F FCN OR	F3802630
00414	0	76000	0	00006		COM	OPEN SUBRTN ENTRY.	F3802640
00415	-0	32000	0	02211		ANA MICON+17	-377777777777.	F3802650
00416	0	10000	0	00372		TZE PAT2-1	ENTRY INDICATES F FCN.	F3802660
00417	1	77774	1	00373		TXI PAT2,1,-4	OPEN SUBRTN END.	F3802670
00420	-0	75400	1	00000	OUT34	PXD 0,1	COMPARE NO. CURRENT WORD OF	F3802680

TD

00421	0	34000	0	02305	CAS M1ALWN
00422	0	02000	0	00425	TRA OUT43
00423	0	07400	4	00341	OUT41 TSX M10210,4
00424	0	07400	4	00004	TSX 4,4
00425	1	77774	1	00373	OUT43 TXI PAT2,1,-4
00426	0	50000	0	02171	M10250 CLA M1CON+1
00427	0	60100	0	02306	STO M1TRC
00430	0	76200	0	00224	M10260 RDS 148
00431	0	53400	2	02170	LXA M1CON,2
00432	0	70000	2	02473	M10270 CPY DO,2
00433	1	77777	2	00432	TXI M10270,2,-1
00434	0	02000	0	00531	TRA M10850
00435	0	76600	0	00333	WRS 219
00436	-0	76000	0	00012	RTT
00437	0	02000	0	00511	TRA M10750
00440	-0	63400	2	02304	SXD M1DOWN,2
00441	0	50000	0	02300	CLA SXTXL
00442	-0	10000	0	00445	TNZ M10285-2
00443	0	53400	2	02170	LXA M1CON,2
00444	0	02000	0	00454	TRA M10290
00445	-0	63400	4	02302	SXD CBOX,4
00446	1	00004	2	00447	TXI M10285,2,4
00447	0	50000	2	02474	M10285 CLA DO+1,2
00450	0	40200	0	02246	SUB M1ABC+25
00451	0	10000	0	00463	TZE M10300
00452	3	00000	2	00446	TXH M10285-1,2,0
00453	-0	53400	4	02302	LXD CBOX,4
00454	-0	75400	4	00000	M10290 PXD 0,4
00455	0	10000	0	00457	TZE M10295
00456	0	02000	4	00002	TRA 2,4
00457	-0	76000	0	00141	M10295 MSE 97
00460	0	02000	0	00626	TRA M11010
00461	0	76000	0	00141	PSE 97
00462	0	02000	0	00636	TRA M11030
00463	0	50000	2	02475	M10300 CLA DO+2,2
00464	0	60100	0	02301	STO SXLOC
00465	0	53400	4	02300	LXA SXTXL,4
00466	0	50000	4	00000	M10305 CLA 0,4
00467	0	40200	0	02301	SUB SXLOC
00470	0	10000	0	00473	TZE M10310
00471	2	00003	4	00466	TXI M10305,4,3
00472	0	02000	0	00452	TRA M10285+3
00473	2	00001	4	00474	M10310 TXI M10310+1,4,1
00474	0	50000	4	00000	CLA 0,4
00475	0	60100	2	02475	STO DO+2,2
00476	0	50000	0	02170	CLA M1CON
00477	0	60100	2	02473	STO DO,2
00500	0	02000	0	00452	TRA M10285+3
					ERROR ROUTINES.
00501	0	50000	0	02306	M10700 CLA M1TRC
00502	0	40200	0	02164	SUB M1ECTR
00503	0	10000	0	00510	TZE M1EATC
00504	0	40000	0	02165	ADD M1ECTR+1
00505	0	60100	0	02306	STO M1TRC

AIL REC WITH AIL REC COUNT  
 TO TEST IF LAST INSTR IN RECORD.  
 READ NEXT AIL RECORD.  
 WORD COUNT EXCEEDS TOTAL COUNT IN REC.  
 ADD 4 IRA, AT LEAST 1 INSTR IN ROUTINE  
 STORE 1 IN M1TRC, TP 2  
 READ ERROR COUNTER.  
 READ 1 RECORD OF DO, THE 1ST  
 FILE ON TP 2 ALREADY POSITIONED.  
 DO REC. READ 100 WDS BEYOND AIL.  
 IRB GIVES POSITION IN DO RECORD.  
 TO END OF DO FILE RTN.  
 TO END OF DO RECORD RTN.  
 IF DO FILE EMPTY, NO SXTX TABLE MADE.  
 REDUNDANCY WHEN READING TP 2.  
 STORE 2S COMPL DO WORD COUNT.  
 TEST IF SXDTX TABLE EMPTY  
 FROM STORED TABLE LENGTH.  
 NO SXTX ENTRIES, GO TO AIL AND DO  
 COMPILATION ROUTINES.  
 SAVE IRC FOR TSX TEST  
 ADD 4 IRB GET 1ST WD LAST DO INSTR.  
 TEST CURRENT DO INST AN SXD  
 BY EXAMINING 2ND WORD OF INSTR.  
 CURRENT INSTR IS SXD.  
 IRB ZERO MEANS ALL DO ENTRIES  
 IN BLOCK EXAMINED FOR SXD.  
 IRC NOT ZERO AFTER 1ST DO REC  
 IN CORES. IRC PERMITS RE-ENTRY  
 VIA TSX TO DO + AIL CMP RTN  
 TEST IF END AIL FILE.  
 TO COMPARE AIL + DO FMLA NOS.  
 SENSE LIGHT 1 ON IF AIL EOF.  
 TO COMPILE DO INSTR.  
 SEARCH SXTX TABLE FOR ENTRY  
 EQUAL TO ADDR PORTION GIVEN IN  
 3RD WD CURRENT SXD DO INSTR.  
 ADDR SXTX ORGIN PLUS LENGTH  
  
 SXTX ENTRY CORR TO SXD FOUND.  
  
 NO SXTX ENTRY CORR TO SXD FOUND.  
 ROUTINE PUT 2ND WORD SXTX  
 TABLE ENTRY INTO ADDRESS WD  
 CURRENT SXD DO INSTR.  
 CHANGE SXD FMLA NO. TO  
 ZEROS IN DO RECORD BUFFER.  
 TO CONTINUE SXD SEARCH OF DO REC.  
 END OF FILE ROUTINES  
 REDUNDANCY CHECK READING  
 AIL RECORD. TEST IF  
 TAPE 2 READ ALREADY 5  
 TIMES. IF NOT, INCREASE  
 COUNT BY 1 IN TAPE READ

F3B02690  
 F3B02700  
 F3B02710  
 F3B02720  
 F3B02730  
 F3B02740  
 F3B02750  
 F3B02760  
 F3B02770  
 F3B02780  
 F3B02790  
 F3B02800  
 F3B02810  
 F3B02820  
 F3B02830  
 F3B02840  
 F3B02850  
 F3B02860  
 F3B02870  
 F3B02880  
 F3B02890  
 F3B02900  
 F3B02910  
 F3B02920  
 F3B02930  
 F3B02940  
 F3B02950  
 F3B02960  
 F3B02970  
 F3B02980  
 F3B02990  
 F3B03000  
 F3B03010  
 F3B03020  
 F3B03030  
 F3B03040  
 F3B03050  
 F3B03060  
 F3B03070  
 F3B03080  
 F3B03090  
 F3B03100  
 F3B03110  
 F3B03120  
 F3B03130  
 F3B03140  
 F3B03150  
 F3B03160  
 F3B03170  
 F3B03180  
 F3B03190  
 F3B03200  
 F3B03210  
 F3B03220

00506	0	76400	0	00222	M10705	BST	146
00507	0	02000	0	00343		TRA	M10220
00510	0	07400	4	00004	M1EATC	TSX	4,4
00511	0	50000	0	02306	M10750	CLA	M1TRC
00512	0	40200	0	02164		SUB	M1ECTR
00513	0	10000	0	00520		TZE	M1EDTC
00514	0	40000	0	02165		ADD	M1ECTR+1
00515	0	60100	0	02306		STO	M1TRC
00516	0	76400	0	00224	M10755	BST	148
00517	0	02000	0	00430		TRA	M10260
00520	0	07400	4	00004	M1EDTC	TSX	4,4
00521	0	76000	0	00141	M10800	PSE	97
00522	-0	76000	0	00142		MSE	98
00523	0	02000	0	00526		TRA	M10810
00524	0	76000	0	00142		PSE	98
00525	0	02000	0	00536		TRA	M10900
00526	-0	75400	4	00000	M10810	PXD	0,4
00527	0	10000	0	00426		TZE	M10250
00530	0	02000	0	00636		TRA	M11030
00531	0	76000	0	00142	M10850	PSE	98
00532	-0	76000	0	00141		MSE	97
00533	0	02000	0	00751		TRA	M12000
00534	0	76000	0	00141		PSE	97
00535	0	02000	0	00536		TRA	M10900
M1 TERMINAL ROUTINE							
00536	0	76600	0	00223	M10900	WRS	147
00537	-0	53400	2	02317		LXD	BBOX,2
00540	0	76000	0	00140		PSE	96
00541	0	70000	1	02637	M10910	CPY	CIB,1
00542	1	77777	1	00543		TXI	M10920,1,-1
00543	1	00001	2	00544	M10920	TXI	M10920+1,2,1
00544	3	00001	2	00541		TXH	M10910,2,1
00545	0	77000	0	00223	M10930	WEF	147
00546	-0	53400	2	00411	PAT10	LXD	PAT5+1,2
00547	3	00000	2	00553		TXH	PAT12,2,0
00550	0	77000	0	00223	PAT11	WEF	147
00551	0	76200	0	00221		RTB	1
00552	0	02000	0	00004		TRA	4
00553	-0	63400	1	02166	PAT12	SXD	M1ECTR+2,1
00554	-0	63400	2	02167		SXD	M1ECTR+3,2
00555	0	53400	1	02164		LXA	M1ECTR,1
00556	0	76200	0	00222		RDS	146
00557	0	70000	0	05737		CPY	ERAS
00560	0	07400	2	00064		TSX	M10043,2
00561	0	76100	0	00556		NOP	PAT12+3
00562	-0	53400	1	02166		LXD	M1ECTR+2,1
00563	-0	53400	2	02167		LXD	M1ECTR+3,2
00564	0	53400	2	05737		LXA	ERAS,2
00565	1	00002	2	00566		TXI	PAT13,2,2
00566	0	76400	0	00222	PAT13	BST	146
00567	2	00001	2	00566		TXI	PAT13,2,1
00570	0	76000	0	00142		PSE	98
00571	0	76000	0	00143		PSE	99
00572	0	50000	0	02170		CLA	MICON

COUNTER AND READ AIL  
RECORD AGAIN.  
AIL REC. READ 5 TIMES UNSUCCESSFULLY.  
REDUNDANCY CHECK READING  
DO RECORD. TEST IF  
TAPE 2 READ ALREADY 5  
TIMES. IF NOT, INCREASE  
COUNT BY 1 IN TAPE READ  
COUNTER AND READ DO  
RECORD AGAIN  
DO REC. READ 5 TIMES UNSUCCESSFULLY.  
END OF FILE FOR AIL ROUTINE.  
TURN SENSE LIGHT 1 ON FOR AIL  
EOF AND TEST IF ENTRIES IN SXTX TBL  
BY LIGHT 2 ON.  
TO WR ON TP 3 INSTR IN BUFFER.  
IRC ZERO IF DO FILE NOT READ YET.  
TO READ DO FILE RECORD.  
TO COMPILE DO INSTRUCTIONS.  
END OF FILE FOR DO ROUTINE.  
TURN SENSE LIGHT 2 ON FOR DO  
EOF AND TEST IF AIL AT EOF.

ROUTINE WR ON TP 3 INSTR REMAINING  
IN CIB BUFFER FROM CIT.  
TURN-OFF ALL SENSE LIGHTS.

IRB 2S COMP NO WORDS CIB BUFFER.

WR FORTRAN FCNS 2ND FILE TP 3.  
WRITE FORTRAN FCNS AS 2ND FILE ON TAPE 3.  
1 IN DECREMENT IF F FCNS IN AIL FILE.  
WR 2ND TAPE MARK ON TP 3 FOR MERGE 1 END.  
SPACE OVER DIAGNOSTIC RECORD.  
TO READ IN MERGE 2.

LOAD 5 INTO IRC TP RD ERROR CTR.  
READ AIL RECORD COUNT, THE  
NEXT FILE AFTER AIL EOF  
TO BACKSPACE TP 2 TO  
START OF AIL FILE TO GET  
F FCNS AT BEGINNING OF COMPAIL FILE.

PUT LIGHT 2 ON FOR DO EOF.  
PUT LIGHT 3 ON FOR NO CHTG TBL.  
INITIALIZE BBOX WITH 0. BBOX

F3B03230  
F3B03240  
F3B03250  
F3B03260  
F3B03270  
F3B03280  
F3B03290  
F3B03300  
F3B03310  
F3B03320  
F3B03330  
F3B03340  
F3B03350  
F3B03360  
F3B03370  
F3B03380  
F3B03390  
F3B03400  
F3B03410  
F3B03420  
F3B03430  
F3B03440  
F3B03450  
F3B03460  
F3B03470  
F3B03480  
F3B03490  
F3B03500  
F3B03510  
F3B03520  
F3B03530  
F3B03540  
F3B03550  
F3B03560  
F3B03570  
F3B03580  
F3B03590  
F3B03600  
F3B03610  
F3B03620  
F3B03630  
F3B03640  
F3B03650  
F3B03660  
F3B03670  
F3B03680  
F3B03690  
F3B03700  
F3B03710  
F3B03720  
F3B03730  
F3B03740  
F3B03750  
F3B03760

00573 0 60100 0 02317 STO BBOX  
 00574 0 07400 4 00341 TSX M10210,4  
 00575 0 76100 0 00000 NOP  
 00576 -0 50000 1 02327 PAT14 CAL AIL,1  
 00577 -0 32000 1 02330 ANA AIL+1,1  
 00600 -0 32000 1 02331 ANA AIL+2,1  
 00601 -0 32000 1 02332 ANA AIL+3,1  
 00602 0 60200 0 05737 SLW ERAS  
 00603 0 50000 0 05737 CLA ERAS  
 00604 0 40200 0 02211 SUB M1CON+17  
 00605 -0 10000 0 00615 TNZ OUT  
 00606 1 77774 1 00607 PAT15 TXI PAT15+1,1,-4  
 00607 -0 75400 1 00000 PXD 0,1  
 00610 0 34000 0 02305 CAS M1ALWN  
 00611 0 02000 0 00751 TRA M12000  
 00612 0 07400 4 00341 PAT16 TSX M10210,4  
 00613 0 07400 4 00004 TSX 4,4  
 00614 0 02000 0 00751 TRA M12000  
 00615 1 77777 2 00616 OUT TXI OUT1,2,-1  
 00616 -0 63400 2 00411 OUT1 SXD PAT5+1,2  
 00617 0 76200 0 00222 OUT13 RDS 146  
 00620 0 70000 0 05737 OUT14 CPY ERAS  
 00621 0 02000 0 00620 TRA OUT14  
 00622 0 02000 0 00624 TRA OUT22  
 00623 0 02000 0 00617 TRA OUT13  
 00624 0 53400 1 02170 OUT22 LXA M1CON,1  
 00625 0 02000 0 00536 TRA M10900

00626 0 50000 2 02473 M11010 CLA DO,2  
 00627 0 62200 0 02307 STD M1DOFN  
 00630 0 07400 4 00744 M11015 TSX ERR2,4  
 00631 -0 32000 0 02205 ANA M1CON+13  
 00632 0 34000 0 02307 CAS M1DOFN  
 00633 0 02000 0 00636 TRA M11030  
 00634 0 02000 0 00667 TRA M11070  
 00635 0 02000 0 00751 TRA M12000  
 00636 0 53400 4 02174 M11030 LXA M1CON+4,4  
 00637 0 50000 2 02473 M11031 CLA DO,2  
 00640 0 60100 4 02326 STO M1CW+4,4  
 00641 1 77777 2 00642 TXI M11035,2,-1  
 00642 2 00001 4 00637 M11035 TIX M11031,4,1  
 00643 0 07400 4 00707 TSX CIT00,4  
 00644 0 00000 0 02322 HTR M1CW  
 00645 0 00000 0 02323 HTR M1CW+1  
 00646 0 00000 0 02324 HTR M1CW+2  
 00647 0 00000 0 02325 HTR M1CW+3  
 00650 -0 75400 2 00000 PXD 0,2  
 00651 0 34000 0 02304 CAS M1DOWN  
 00652 0 02000 0 00655 TRA M11055  
 00653 0 07400 4 00426 TSX M10250,4

KEEPS COUNT OF RECORDS IN CIB BUFFER.  
 TO READ AIL FILE FOR FORTRAN FCNS.  
 NOP NEEDED FOR ROUTINE AT RET1.  
 TEST FOR FORTRAN FCN. AIL  
 WORD ALL ONES IF A FORTRAN FCN.

ENTRY IS NOT A FORTRAN FCN.

TEST IF LAST WORD OF  
 AIL BUFFER.  
 TO AIL COMPILATION ROUTINE.  
 TO READ NEXT AIL ENTRY.  
 NO. OF WORDS OF AIL REC NOT A MULTIPLE OF 4  
 TO AIL COMPILATION ROUTINE.  
 MAKE IRB VALUE ZERO.  
 DECREMENT ZERO MEANS NO FORTRAN FCNS.  
 SPACE OVER REMAINING  
 AIL ENTRIES WHICH ARE  
 NOT FORTRAN FCNS TO POSITION  
 TAPE 2 AT END OF AIL FILE.

TO WR ANY F FCN ENTRIES IN CIB BUFFER.  
 COMPAIL INSTR USUALLY MERGED AHEAD OF COMPDO INSTR IF BOTH  
 HAVE SAME FMLA NO, EXCEPT FOR READ AND WRITE, WHEN DO PRECEDES  
 THE AIL FOR TIMING REASONS. FMLA NO. DECREMENT PART HERE.  
 COMPARISON OF AIL AND DO FMLA NOS AND  
 COMPILATION OF DO INSTRUCTIONS

COMPARE AIL AND DO INTERNAL  
 FORMULA NOS.  
 TEST FOR FORTRAN FCNS.  
 +077777000000.  
 COMPARE AIL AND  
 AIL FMLA NO GREATER DO NO.  
 AIL FMLA NO. EQUALS DO NO.  
 AIL FMLA NO. LESS DO NO.  
 COMPILE DO INSTR BY  
 GATHERING 4 WORDS FROM  
 DO REC BUFFER AND PLACING  
 THEM IN CALLING SEQ LOCATIONS.

TO CIT COMPILING ROUTINE.  
 CALLING SEQ FOR LOCATIONS  
 OF 4 COMPILED WORDS.

TEST IF END OF CUR DO REC  
 BY COMPARING CURRENT DO WD  
 POSITION WITH TOTAL DO  
 REC WORD COUNT.

F3803770  
 F3803780  
 F3803790  
 F3803800  
 F3803810  
 F3803820  
 F3803830  
 F3803840  
 F3803850  
 F3803860  
 F3803870  
 F3803880  
 F3803890  
 F3803900  
 F3803910  
 F3803920  
 F3803930  
 F3803940  
 F3803950  
 F3803960  
 F3803970  
 F3803980  
 F3803990  
 F3804000  
 F3804010  
 F3804020  
 F3804030  
 F3804040  
 F3804050  
 F3804060  
 F3804070  
 F3804080  
 F3804090  
 F3804100  
 F3804110  
 F3804120  
 F3804130  
 F3804140  
 F3804150  
 F3804160  
 F3804170  
 F3804180  
 F3804190  
 F3804200  
 F3804210  
 F3804220  
 F3804230  
 F3804240  
 F3804250  
 F3804260  
 F3804270  
 F3804280  
 F3804290  
 F3804300

00654	0	07400	4	00004		TSX 4,4
00655	-0	76000	0	00141	M11055	MSE 97
00656	0	02000	0	00661		TRA M11060
00657	0	76000	0	00141		PSE 97
00660	0	02000	0	00636		TRA M11030
00661	0	50000	2	02473	M11060	CLA DO,2
00662	-0	32000	0	02205		ANA M1CON+13
00663	0	34000	0	02307		CAS M1DOFN
00664	0	02000	0	00626		TRA M11010
00665	0	76100	0	00000		NOP
00666	0	02000	0	00636		TRA M11030
00667	1	77777	1	00670	M11070	TXI M11070+1,1,-1
00670	0	50000	1	02327		CLA AIL,1
00671	0	40200	0	02236		SUB M1ABC+17
00672	0	10000	0	00677		TZE M11080
00673	0	50000	1	02327		CLA AIL,1
00674	0	40200	0	02247		SUB M1ABC+26
00675	0	10000	0	00677		TZE M11080
00676	1	00001	1	00751		TXI M12000,1,1
00677	1	00001	1	00700	M11080	TXI ERR3,1,1
00700	0	50000	2	02473	ERR3	CLA DO,2
00701	-0	32000	0	02206		ANA M1CON+14
00702	0	10000	0	00704		TZE RET2
00703	0	02000	0	00751		TRA M12000
00704	0	50000	0	02210	RET2	CLA M1CON+16
00705	-0	60200	1	02327		ORS AIL,1
00706	0	02000	0	00636		TRA M11030
00707	-0	60000	0	02314	CIT00	COMPILING ROUTINE,CIT00
00710	-0	63400	1	02315		STQ E1C
00711	-0	63400	2	02316		SXD E2C,1
00712	-0	53400	2	02317		SXD E3C,2
00713	3	77634	2	00723		LXD BBOX,2
00714	-3	00000	2	00723		TXH CIT04,2,-100
00715	0	76600	0	00223		TXL CIT04,2,0
00716	0	53400	1	02170		WRS 147
00717	0	70000	1	02637	CIT01	LXA M1CON,1
00720	1	77777	1	00721		CPY CIB,1
00721	1	00001	2	00722	CIT02	TXI CIT02,1,-1
00722	3	00001	2	00717	CIT03	TXH CIT01,2,1
00723	0	53400	1	02174	CIT04	LXA M1CON+4,1
00724	0	50000	0	02171		CLA M1CON+1
00725	0	62100	0	00726		STA CIT05
00726	0	50000	4	00000	CIT05	CLA 0,4
00727	0	62100	0	00730		STA CIT06
00730	0	50000	0	00000	CIT06	CLA
00731	0	60100	2	02637		STO CIB,2
00732	0	50000	0	00726		CLA CIT05
00733	0	40000	0	02171		ADD M1CON+1
00734	0	62100	0	00726		STA CIT05
00735	1	77777	2	00736		TXI CIT07,2,-1
00736	2	00001	1	00726	CIT07	TIX CIT05,1,1
00737	-0	63400	2	02317		SXD BBOX,2
00740	0	56000	0	02314		LDQ E1C

NO OF WORDS NOT A MULTIPLE OF 4  
END OF AIL FILE IF LIGHT 1 ON.

AIL AT EOF. CONTINUE  
COMPILING DO INSTR.  
GET NEXT DO INST SAME BLOCK  
AS PREVIOUS ONE.  
AIL AND DO FMLA NOS IN DECREMENTS.  
DO FMLA NO. GREATER AIL NO.  
DO FMLA NO. EQUALS AIL NO.  
DO FMLA NO. LESS AIL NO.

TEST IF CURRENT AIL OPER RDS

TEST IF CURRENT AIL OPER WRS

RESTORE IRA CURRENT AIL VALUE.  
TO TEST IF SPACING TAPE.  
TEST IF BOTH AIL AND DO HAVE SAME FORMULA NO.  
DETERMINE IF DO OR AIL INSTR COMPILED FIRST.  
LXD BEFORE RDS HAS ZERO LOCATION.  
TO COMPILE AIL INSTRUCTION.  
INCREASE AIL 1ST WD ADDRESS  
FOR SEC. 4 PURPOSES.  
TO COMPILE DO INSTR.  
COMPILING ROUTINE,CIT00  
E1C CELL FOR SAVING MQ.  
E2C CELL FOR SAVING IRA.  
E3C CELL FOR SAVING IRB.  
2S COMP NO. ALREADY IN BLOCK.  
TR NO. WDS IN BLOCK LESS 100.  
TR NO. WDS IN BLOCK EQUALS 0.  
WRITE-OUT BLOCK OF 100  
WORDS WHICH MAKE UP  
25 COMPILED INSTR. ON TP 3.

WRITING OF CIB BUFFER  
FINISHED WHEN IRB IS 0.  
ROUTINE TO PLACE 4 WORDS  
OF COMPILED INSTR IN CIB  
BUFFER OF 100 WORDS.  
IRC CONTAINS 25 COMP LOC OF  
CALLING SEQ LESS 1.  
INSTR ADDRESS SEQUENTIALLY  
M1CW, M1CW+1, M1CW+2  
AND M1CW+3.

IRA LOADED WITH 4.  
25 COMPL NO. WORDS ALREADY IN BLOCK.  
RESTORE MQ, IRA, IRB.

F3B04310  
F3B04320  
F3B04330  
F3B04340  
F3B04350  
F3B04360  
F3B04370  
F3B04380  
F3B04390  
F3B04400  
F3B04410  
F3B04420  
F3B04430  
F3B04440  
F3B04450  
F3B04460  
F3B04470  
F3B04480  
F3B04490  
F3B04500  
F3B04510  
F3B04520  
F3B04530  
F3B04540  
F3B04550  
F3B04560  
F3B04570  
F3B04580  
F3B04590  
F3B04600  
F3B04610  
F3B04620  
F3B04630  
F3B04640  
F3B04650  
F3B04660  
F3B04670  
F3B04680  
F3B04690  
F3B04700  
F3B04710  
F3B04720  
F3B04730  
F3B04740  
F3B04750  
F3B04760  
F3B04770  
F3B04780  
F3B04790  
F3B04800  
F3B04810  
F3B04820  
F3B04830  
F3B04840



00741	-0	53400	1	02315	LXD	E2C,1	IRA GIVES AIL REC POSITION.	F3B04B50
00742	-0	53400	2	02316	LXD	E3C,2	IRB GIVES DO REC POSITION.	F3B04B60
00743	0	02000	4	00005	TRA	5,4	RETURN TO TSX ADDR PLUS 5.	F3B04B70
00744	0	50000	1	02327	ERR2	CLA AIL,1	TEST IF FORTRAN FCN DEFINED IN MIDDLE OF	F3B04B80
00745	0	34000	0	02211	CAS	M1CON+17	PROGRAM, BY FIRST INSTR WORD ALL ONES.	F3B04B90
00746	0	02000	4	00001	TRA	1,4	RETURN TO NEXT INSTR. OF MAIN PROGRAM.	F3B04900
00747	0	07400	4	00004	TSX	4,4	FORTAN FUNCTION IN MIDDLE OF PROGRAM	F3B04910
00750	0	07400	4	00004	ERROR3	TSX 4,4	WORD ALL 1S COMPARED HIGH TO AC WITH ALL 1S	F3B04920
						COMPILATION OF AIL INSTRUCTIONS		F3B04930
00751	0	07400	4	00744	M12000	TSX ERR2,4	TEST 1ST AIL WORD ALL ONES.	F3B04940
00752	0	62200	0	02310	STD	M1ALFN	SAVE FMLA NO. 1ST INSTR ARITH BLOCK.	F3B04950
00753	-0	12000	0	01070	M12005	TMI M13000	MINUS MEANS OPEN SUBROUTINE.	F3B04960
00754	0	53400	4	02174	LXA	M1CON+4,4	COMPILE AIL INST BY	F3B04970
00755	0	50000	1	02327	M12010	CLA AIL,1	MOVING 4 WORDS OF INSTR	F3B04980
00756	0	60100	4	02326	STO	M1CW+4,4	INTO COMPILED WORD BUFFER.	F3B04990
00757	1	77777	1	00760	TXI	M12020,1,-1		F3B05000
00760	2	00001	4	00755	M12020	TIX M12010,4,1		F3B05010
00761	0	50000	0	02325	M12021	CLA M1CW+3	TEST IF TAGGED INSTR, BITS 24-26.	F3B05020
00762	-0	32000	0	02207	M12022	ANA M1CON+15	1,2 OR 3 GIVEN IN TAG. ONE	F3B05030
00763	0	10000	0	00767	TZE	M12030	DIM TAGS NOT CHANGED.	F3B05040
00764	-0	76000	0	00143	MSE	99	SENSE LIGHT 3 ON IF NO	F3B05050
00765	0	07400	4	01016	TSX	M12500,4	ENTRIES IN EDITED CHANGE	F3B05060
00766	0	76000	0	00143	PSE	99	TAG TABLE.	F3B05070
00767	0	07400	4	00707	M12030	TSX CIT00,4	TO CIT COMPILING IF TAG UNCHANGED.	F3B05080
00770	0	00000	0	02322	HTR	M1CW	CALLING SEQ FOR LOCATIONS	F3B05090
00771	0	00000	0	02323	HTR	M1CW+1	OF 4 COMPILED WORDS.	F3B05100
00772	0	00000	0	02324	HTR	M1CW+2		F3B05110
00773	0	00000	0	02325	HTR	M1CW+3		F3B05120
00774	-0	75400	1	00000	M12035	PXD 0,1	TEST IF END OF CUR AIL REC	F3B05130
00775	0	34000	0	02305	CAS	M1ALWN	BY COMPARING CURRENT AIL WD	F3B05140
00776	0	02000	0	01001	TRA	M12040	POSITION WITH TOTAL AIL	F3B05150
00777	0	07400	4	00341	TSX	M10210,4	REC WORD COUNT.	F3B05160
01000	0	07400	4	00004	TSX	4,4	NO OF WORDS OF AIL REC NOT A MULTIPLE OF 4	F3B05170
01001	0	50000	1	02327	M12040	CLA AIL,1	NEXT AIL INST SAME BLOCK AS	F3B05180
01002	-0	32000	0	02205	ANA	M1CON+13	PREVIOUS ONE. +077777000000.	F3B05190
01003	0	34000	0	02310	CAS	M1ALFN		F3B05200
01004	0	02000	0	01010	TRA	M12050	NEXT AIL FMLA NO. GR THAN PREV.	F3B05210
01005	0	76100	0	00000	NOP			F3B05220
01006	0	50000	1	02327	CLA	AIL,1	TEST IF OPEN SRTN. IF NOT,	F3B05230
01007	0	02000	0	00753	TRA	M12005	COMPILE AIL INSTR	F3B05240
01010	-0	76000	0	00142	M12050	MSE 98	END OF DO FILE IF LIGHT 2 ON.	F3B05250
01011	0	02000	0	00630	TRA	M11015	TO CMP AIL AND DO FMLA NOS.	F3B05260
01012	0	76000	0	00142	PSE	98		F3B05270
01013	3	00001	2	00751	TXH	M12000,2,1	IN THE MAIN MERGE IF IRB	F3B05280
01014	-3	00000	2	00751	TXL	M12000,2,0	ANY VALUE EXCEPT 1.	F3B05290
01015	0	02000	0	00576	TRA	PAT14	TO TEST FOR FORTRAN FCN.	F3B05300
						CHANGE TAG TABLE SEARCH		F3B05310
01016	0	50000	0	02325	M12500	CLA M1CW+3	SYMBOLIC TAG IN BINARY BITS	F3B05320
01017	0	62100	0	02303	STA	TAGBOX	24-35 4TH WD COMPILED INSTR.	F3B05330
01020	-0	63400	4	02302	SXD	CBOX,4	IRC HAS TSX RTN ADDR TO M12030.	F3B05340
01021	-0	53400	4	02275	M12503	LXD CHTGE1,4		F3B05350
01022	0	50000	4	05741	CLA	CHTG,4	CMP INT FMLA NO CUR AIL INSTR	F3B05360
01023	0	34000	0	02310	CAS	M1ALFN	WITH CUR CHTG TABLE BLOCK.	F3B05370
01024	0	02000	0	01027	TRA	M12510	CHTG FMLA NO GREATER AIL NO.	F3B05380

01025 0 02000 0 01031 TRA M12515  
 01026 0 02000 0 01046 TRA M12540  
 01027 -0 53400 4 02302 M12510 LXD CBOX,4  
 01030 0 02000 4 00002 TRA 2,4  
 01031 0 50000 0 02276 M12515 CLA CHTGE2  
 01032 0 62200 0 01044 STD M12530+1  
 01033 1 77777 4 01034 M12520 TXI M12520+1,4,-1  
 01034 0 50000 4 05741 CLA CHTG,4  
 01035 0 76500 0 00022 LRS 18  
 01036 0 40200 0 02303 SUB TAGBOX  
 01037 -0 10000 0 01043 TNZ M12530  
 01040 0 76300 0 00022 LLS 18  
 01041 0 62100 0 02325 STA M1CW+3  
 01042 0 02000 0 01027 TRA M12510  
 01043 1 77777 4 01044 M12530 TXI M12530+1,4,-1  
 01044 3 00000 4 01033 TXH M12520,4  
 01045 0 02000 0 01027 TRA M12510  
 01046 0 50000 0 02276 M12540 CLA CHTGE2  
 01047 0 60100 0 02275 STO CHTGE1  
 01050 0 40200 0 02274 SUB CHTGL  
 01051 -0 10000 0 01054 TNZ M12550  
 01052 0 76000 0 00143 PSE 99  
 01053 0 02000 0 01027 TRA M12510  
 01054 -0 53400 4 02275 M12550 LXD CHTGE1,4  
 01055 0 50000 4 05741 CLA CHTG,4  
 01056 0 60100 0 02277 STO CHTGFN  
 01057 1 77776 4 01060 M12555 TXI M12555+1,4,-2  
 01060 -0 75400 4 00000 PXD 0,4  
 01061 0 40200 0 02274 SUB CHTGL  
 01062 0 10000 0 01066 TZE M12570  
 01063 0 50000 4 05741 CLA CHTG,4  
 01064 0 40200 0 02277 SUB CHTGFN  
 01065 0 10000 0 01057 TZE M12555  
 01066 -0 63400 4 02276 M12570 SXD CHTGE2,4  
 01067 0 02000 0 01021 TRA M12503  
 EXPONENTIAL OPEN SUBROUTINES  
 01070 0 76000 0 00002 M13000 CHS  
 01071 0 60100 0 02322 STO M1CW  
 01072 1 77777 1 01073 TXI M13005,1,-1  
 01073 0 50000 1 02327 M13005 CLA AIL,1  
 01074 0 40200 0 02237 SUB M1ABC+18  
 01075 0 10000 0 01101 TZE M13020  
 01076 0 40000 0 02240 ADD M1ABC+19  
 01077 0 10000 0 01102 TZE M13020+1  
 01100 1 77777 1 01304 TXI M13500,1,-1  
 01101 0 76000 0 00144 M13020 PSE 100  
 01102 1 77777 1 01103 TXI M13020+2,1,-1  
 01103 0 50000 1 02327 CLA AIL,1  
 01104 0 60100 0 02324 STO M1CW+2  
 01105 1 77777 1 01106 M13025 TXI M13025+1,1,-1  
 01106 0 50000 1 02327 CLA AIL,1  
 01107 0 60100 0 02325 STO M1CW+3  
 01110 1 77777 1 01111 M13030 TXI M13030+1,1,-1  
 01111 -0 75400 1 00000 PXD 0,1

CHTG FMLA NO EQUALS AIL NO.  
 CHTG FMLA NO LESS AIL NO.  
 IRC HAS TSX RTN ADDR TO  
 AIL COMP AT M12030.  
 SEARCH CUR CHTG BLOCK FOR  
 CUR AIL INST TAG  
 GET TAG1 FROM 2ND WORD OF  
 CHTG TABLE.  
 TAG BOX HAS AIL TAG IN ADDR.  
 CHTG TAG AND AIL TAG DIFFERENT.  
 CHTG AND AIL TAGS SAME, SO  
 REPLACE CUR AIL TAG WITH CHTG T2.  
 RTN VIA TSX TO AIL COMP AT M12030.  
 IRC ENDS CHTG BLOCK SAME FMLA NO.  
 DECREMENT IS CHTGE2 VALUE.  
 UPDATE CHTGE1. CHTGE1 HAS IRC  
 VALUE TO GET 1ST ENTRY OF  
 CHTG BLOCK ALL SAME FMLA NO.  
 CHTGL HAS 2S COMP NO WDS CHTG TABLE.  
 SENSE LIGHT 3 ON MEANS CHTG  
 EMPTY OR EXHAUSTED.  
 COMPUTE NEW CHTGE2. CHTGE2 IS  
 DECREMENT VALUE IN M12530 TO  
 INDICATE LAST ENTRY IN CHTG  
 BLOCK ALL WITH SAME FMLA NO.  
 THIS OBIATES SEARCHING ENTIRE  
 CHTG TABLE WHEN TESTING AIL  
 INSTR FOR CHANGING ITS TAG.  
 ROUTINE ENTERED WHEN AIL  
 FMLA NO. GREATER THAN CHTG  
 FMLA, SO MUST UPDATE CHTGE1  
 AND CHTGE2 TO GET NEXT ENTRY.  
 TO CMP AIL AND CHTG FMLA NOS.  
 CHANGE MINUS SIGN OF  
 INT FMLA NO, IF ANY, TO M1CW  
 DECREASE COUNT IN IRI  
 SECOND WORD  
 FIXED EXP, FLOATING EXP OR SPECIAL OP  
 FIXED EXPONENT  
 TEST FOR FLOATING POINT  
 IF NEITHER, THEN NOT EXPONENTIAL  
 DETERMINATION OF SPECIAL OP.  
 FIXED EXP. LITE 100 ON  
 3RD WORD  
 INFO ON LOC OF ARG  
 TO M1CW+2  
 REL ADD AND TAG, IF ANY.  
 TO M1CW+3  
 DECREASE BY 1  
 TEST FOR END OF CUR AIL REC

F3B05390  
 F3B05400  
 F3B05410  
 F3B05420  
 F3B05430  
 F3B05440  
 F3B05450  
 F3B05460  
 F3B05470  
 F3B05480  
 F3B05490  
 F3B05500  
 F3B05510  
 F3B05520  
 F3B05530  
 F3B05540  
 F3B05550  
 F3B05560  
 F3B05570  
 F3B05580  
 F3B05590  
 F3B05600  
 F3B05610  
 F3B05620  
 F3B05630  
 F3B05640  
 F3B05650  
 F3B05660  
 F3B05670  
 F3B05680  
 F3B05690  
 F3B05700  
 F3B05710  
 F3B05720  
 F3B05730  
 F3B05740  
 F3B05750  
 F3B05760  
 F3B05770  
 F3B05780  
 F3B05790  
 F3B05800  
 F3B05810  
 F3B05820  
 F3B05830  
 F3B05840  
 F3B05850  
 F3B05860  
 F3B05870  
 F3B05880  
 F3B05890  
 F3B05900  
 F3B05910  
 F3B05920

01112	0	34000	0	02305	CAS M1ALWN	25 COMPLIMENT OF NUMBER OF WORDS	F3B05930
01113	0	02000	0	01116	TRA M13040	OF CURRENT AIL RECORD	F3B05940
01114	0	07400	4	00341	TSX M10210,4	BACK TO READ NEXT AIL RECORD	F3B05950
01115	0	07400	4	00004	TSX 4,4	NO OF WORDS OF AIL REC NOT A MULTIPLE OF 4	F3B05960
01116	1	77776	1	01117	M13040 TXI M13040+1,1,-2	DECREASE BY 2	F3B05970
01117	0	50000	0	02324	CLA M1CW+2	LOCATION OF ARGUMENT	F3B05980
01120	0	40200	0	02241	SUB M1ABC+20	SUBTRACT A PLUS SIGN	F3B05990
01121	0	10000	0	01212	TZE M13200	ARG IN AC	F3B06000
01122	0	50000	0	02324	CLA M1CW+2	LOCATION AGAIN	F3B06010
01123	0	40200	0	02237	SUB M1ABC+18	SUBTRACT ASTERISK	F3B06020
01124	0	10000	0	01230	TZE M13250	ARG IN MQ	F3B06030
					ARGUMENT STORED, FIXED OR FLOATING		F3B06040
01125	0	50000	1	02327	CLA AIL,1	VALUE OF EXPONENT, 3RD WORD	F3B06050
01126	0	40200	0	02176	SUB M1CON+6	OF SECOND AIL ENTRY	F3B06060
01127	-0	10000	0	01135	TNZ M13060	EXP GREATER THAN 1	F3B06070
01130	0	50000	0	02215	CLA M1ABC	EXP EQUALS 1, COMPILER A CLA INSTR	F3B06080
01131	0	60100	0	02323	STO M1CW+1	AND PLACE IT IN OP CODE	F3B06090
01132	-0	76000	0	00144	MSE 100	TURN OFF SENSE LIGHT, ADJUST	F3B06100
01133	0	76100	0	00000	NOP	COUNT FOR NEXT AIL ENTRY, AND	F3B06110
01134	1	77776	1	00761	TXI M12021,1,-2	TRANSFER BACK FOR CHTG SEARCH	F3B06120
01135	0	50000	0	02325	M13060 CLA M1CW+3	EXPONENT GREATER THAN 1	F3B06130
01136	-0	32000	0	02207	ANA M1CON+15	TEST IF TAG NEEDS CHANGING	F3B06140
01137	0	10000	0	01143	TZE M13070	ARG TAGGED	F3B06150
01140	-0	76000	0	00143	MSE 99	END OF CHTG TABLE	F3B06160
01141	0	07400	4	01016	TSX M12500,4	TRANSFER BACK TO CHTG TABLE	F3B06170
01142	0	76000	0	00143	PSE 99	SEARCH	F3B06180
01143	0	07400	4	00707	M13070 TSX CIT00,4	COMPILE FIRST INST	F3B06190
01144	0	00000	0	02322	HTR M1CW	LOCATION OF INTERNAL FORMULA NO	F3B06200
01145	0	00000	0	02216	HTR M1ABC+1	LOCATION OF LDQ INSTRUCTION	F3B06210
01146	0	00000	0	02324	HTR M1CW+2	LOCATION OF ARGUMENT	F3B06220
01147	0	00000	0	02325	HTR M1CW+3	TAG	F3B06230
01150	0	50000	1	02327	M13080 CLA AIL,1	VALUE OF EXPONENT	F3B06240
01151	0	40200	0	02177	SUB M1CON+7	SUBTRACT 2	F3B06250
01152	0	10000	0	01175	TZE M13115	EXPONENT EQUAL TO 2	F3B06260
01153	0	62200	0	02311	STD CCOUNT	EXP-2 TO COUNT	F3B06270
01154	-0	76000	0	00144	MSE 100	ARG FIXED OR FLOATING	F3B06280
01155	0	02000	0	01260	TRA M13300	FLOATING ARGUMENT	F3B06290
01156	0	76000	0	00144	PSE 100		F3B06300
					FIXED ARGUMENT, STORED, IN AC, INMQ, EXP GREATER THAN 2		F3B06310
01157	0	07400	4	00707	M13090 TSX CIT00,4	COMPILE INSTRUCTIONS FOR FIXED ARG.	F3B06320
01160	0	00000	0	02170	HTR M1CON	FOR THE EXPON.	F3B06330
01161	0	00000	0	02217	HTR M1ABC+2	ENTIAL ROUTINE, THE LOCATION	F3B06340
01162	0	00000	0	02324	HTR M1CW+2	OF THE ARGUMENT HAS ALREADY	F3B06350
01163	0	00000	0	02325	HTR M1CW+3	BEEN CONSIDERED, AND TH LOOP	F3B06360
01164	0	07400	4	00707	TSX CIT00,4	WILL COMPILE N-2 PAIRS OF	F3B06370
01165	0	00000	0	02170	HTR M1CON	MPY AND LRS INSTRUCTIONS	F3B06380
01166	0	00000	0	02220	HTR M1ABC+3		F3B06390
01167	0	00000	0	02170	HTR M1CON		F3B06400
01170	0	00000	0	02203	HTR M1CON+11		F3B06410
01171	-0	53400	4	02311	LXD CCOUNT,4	LOAD EXPONENT -2 IN IR 4 AND	F3B06420
01172	1	77777	4	01173	M13110 TXI M13110+1,4,-1	COMPILE N-2 PAIRS OF INSTRUCTIONS	F3B06430
01173	-0	63400	4	02311	SXD CCOUNT,4	RESTORE CCOUNT DURING LOOP	F3B06440
01174	3	00000	4	01157	TXH M13090,4		F3B06450
01175	-0	76000	0	00144	M13115 MSE 100	ARG FIXED OR FLOATING	F3B06460

01176	0	02000	0	01276	TRA M13330	FLOATING ARGUMENT	F3806470
01177	0	07400	4	00707	TSX CIT00,4	COMPILE LAST 2 INST FOR	F3806480
01200	0	00000	0	02170	HTR M1CON	EXP GREATER OR EQUAL 2, IN WHICH	F3806490
01201	0	00000	0	02217	HTR M1ABC+2	CASE WE MUST COMPILE ONLY ONE	F3806500
01202	0	00000	0	02324	HTR M1CW+2	PAIR OF INSTRUCTIONS	F3806510
01203	0	00000	0	02325	HTR M1CW+3		F3806520
01204	0	07400	4	00707	TSX CIT00,4		F3806530
01205	0	00000	0	02170	HTR M1CON		F3806540
01206	0	00000	0	02221	HTR M1ABC+4		F3806550
01207	0	00000	0	02170	HTR M1CON		F3806560
01210	0	00000	0	02202	HTR M1CON+10		F3806570
01211	1	77776	1	00774	TXI M12035,1,-2	BACK TO CONTINUE AIL ROUTINES	F3806580
					ARG IN AC, FIXED OR FLOATING		F3806590
01212	0	50000	1	02327	M13200 CLA AIL,1	TEST TO SEE IF EXPONENT	F3806600
01213	0	40200	0	02176	SUB M1CON+6	EQUALS 1, IF YES, TRANSFER	F3806610
01214	-0	10000	0	01220	TNZ M13210	BACK TO PICK UP NEXT RECORD	F3806620
01215	-0	76000	0	00144	MSE 100	IF NO, CONTINUE TO	F3806630
01216	0	76100	0	00000	NOP	COMPILE PROPER INSTRUCTIONS	F3806640
01217	1	77776	1	00774	TXI M12035,1,-2		F3806650
01220	0	50000	0	02242	M13210 CLA M1ABC+21	EXP GREATER THAN 1,0	F3806660
01221	0	60100	0	02324	STO M1CW+2	STORE VALUE OF EXPONENT IN INSTR. AREA	F3806670
01222	0	07400	4	00707	TSX CIT00,4	COMPILE FIRST INST	F3806680
01223	0	00000	0	02322	HTR M1CW	CALLING SEQUENCE FOR ARG-	F3806690
01224	0	00000	0	02222	HTR M1ABC+5	UMENT IN ACC, COMPILE	F3806700
01225	0	00000	0	02324	HTR M1CW+2	A STO INSTRUCTION, AND CONTINUE	F3806710
01226	0	00000	0	02325	HTR M1CW+3	AS IF IT WERE STORED INITIALLY	F3806720
01227	0	02000	0	01143	TRA M13070		F3806730
					ARG IN MQ, FIXED OR FLOATING		F3806740
01230	0	50000	1	02327	M13250 CLA AIL,1	VALUE OF EXPONENT AND TEST TO	F3806750
01231	0	40200	0	02176	SUB M1CON+6	SEE IF EXPONENT = 1, IF IT IS	F3806760
01232	-0	10000	0	01250	TNZ M13265	EQUAL TO ONE, WE KNOW THAT	F3806770
01233	0	07400	4	00707	TSX CIT00,4	THE VALUE OF THE	F3806780
01234	0	00000	0	02322	HTR M1CW	ARGUMENT IS RETAINED AS THE	F3806790
01235	0	00000	0	02232	HTR M1ABC+13	ANSWER.	F3806800
01236	0	00000	0	02170	HTR M1CON		F3806810
01237	0	00000	0	02170	HTR M1CON		F3806820
01240	0	07400	4	00707	TSX CIT00,4		F3806830
01241	0	00000	0	02170	HTR M1CON		F3806840
01242	0	00000	0	02223	HTR M1ABC+6		F3806850
01243	0	00000	0	02170	HTR M1CON		F3806860
01244	0	00000	0	02204	HTR M1CON+12		F3806870
01245	-0	76000	0	00144	MSE 100	TURN OF SENSE LIGHT	F3806880
01246	0	76100	0	00000	NOP		F3806890
01247	1	77776	1	00774	TXI M12035,1,-2	BACK TO AIL ROUTINE	F3806900
01250	0	50000	0	02242	M13265 CLA M1ABC+21	EXP GREATER 1,	F3806910
01251	0	60100	0	02324	STO M1CW+2	PLACE 010000000000IN LOCATION POS.	F3806920
01252	0	07400	4	00707	TSX CIT00,4	COMPILE FIRST INST	F3806930
01253	0	00000	0	02322	HTR M1CW	ZERO	F3806940
01254	0	00000	0	02224	HTR M1ABC+7	COMPILE A STQ INSTRUCTION	F3806950
01255	0	00000	0	02324	HTR M1CW+2	AND THEN TRANSFER TO DETER-	F3806960
01256	0	00000	0	02325	HTR M1CW+3	MINE THE VALUE OF THE	F3806970
01257	0	02000	0	01150	TRA M13080	EXPONENT.	F3806980
					FLOATING ARG, STORED, IN AC, IN MQ, EXP GREATER 2		F3806990
01260	0	07400	4	00707	M13300 TSX CIT00,4		F3807000

01261 0 00000 0 02170 HTR MICON  
 01262 0 00000 0 02225 HTR M1ABC+8  
 01263 0 00000 0 02324 HTR M1CW+2  
 01264 0 00000 0 02325 HTR M1CW+3  
 01265 0 07400 4 00707 TSX CIT00,4  
 01266 0 00000 0 02170 HTR MICON  
 01267 0 00000 0 02220 HTR M1ABC+3  
 01270 0 00000 0 02170 HTR MICON  
 01271 0 00000 0 02204 HTR M1CON+12  
 01272 -0 53400 4 02311 LXI M13320 TXI M13320+1,4,-1  
 01273 1 77777 4 01274 M13320 SXX CCOUNT,4  
 01274 -0 63400 4 02311 TXH M13300,4  
 01275 3 00000 4 01260 M13330 TSX CIT00,4  
 01276 0 07400 4 00707 HTR MICON  
 01277 0 00000 0 02170 HTR M1ABC+8  
 01300 0 00000 0 02225 HTR M1CW+2  
 01301 0 00000 0 02324 HTR M1CW+3  
 01302 0 00000 0 02325 TXI M12035,1,-2  
 01303 1 77776 1 00774 LXI M13500 LXI M1CON+11,4  
 01304 -0 53400 4 02203 M13505 CLA AIL,1  
 01305 0 50000 1 02327 CAS M1D+18,4  
 01306 0 34000 4 02273 M13505 TRA OP1-2  
 01307 0 02000 0 07071 TRA M13510  
 01310 0 02000 0 01312 TRA OP1-2  
 01311 0 02000 0 07071 M13510 SXX CCELL,4  
 01312 -0 63400 4 02312 TXI M13510+2,1,-2  
 01313 1 77776 1 01314 PXD 0,1  
 01314 -0 75400 1 00000 CAS M1ALWN  
 01315 0 34000 0 02305 TRA M13520  
 01316 0 02000 0 01321 TSX M10210,4  
 01317 0 07400 4 00341 TSX 4,4  
 01320 0 07400 4 00004 LXI M13520 LXI CCELL,4  
 01321 -0 53400 4 02312 M13525 TRA M13525+19,4  
 01322 0 02000 4 01345 TXI M13550,1,-2  
 01323 1 77776 1 01345 TXI M13550,1,-2  
 01324 1 77776 1 01345 TXI M13600,1,-2  
 01325 1 77776 1 01412 TXI M13595,1,-2  
 01326 1 77776 1 01411 TXI M13600,1,-2  
 01327 1 77776 1 01412 TXI M13600,1,-2  
 01330 1 77776 1 02063 TXI M13900,1,-2  
 01331 1 77776 1 01513 TXI M13680,1,-2  
 01332 1 77776 1 01514 TXI M13681,1,-2  
 01333 1 77776 1 01514 TXI M13681,1,-2  
 01334 1 77776 1 01514 TXI M13681,1,-2  
 01335 1 77776 1 01514 TXI M13681,1,-2  
 01336 1 77776 1 01514 TXI M13681,1,-2  
 01337 1 77776 1 01513 TXI M13680,1,-2  
 01340 1 77776 1 01513 TXI M13680,1,-2  
 01341 1 77776 1 01514 TXI M13681,1,-2  
 01342 1 77776 1 01514 TXI M13681,1,-2  
 01343 1 77776 1 01513 TXI M13680,1,-2  
 01344 1 77776 1 01513 TXI M13680,1,-2

XABS, ABS BRANCH

01345 0 07400 4 02156 M13550 TSX ERROR1+1,4

INST COMPILING LOOP FOR FLOATING  
 ARGUMENT, COMPILE A FMP  
 INSTRUCTION, AND A LRS INSTR-  
 UCTION.

ZERO, FOR INTERNAL FMLA. NO.

PLACE 43 INDECREMENT OF  
 RELATIVE ADDRESS.  
 LOAD N-2 IN IR 4  
 DECREASE COUNT BY 1  
 REPLACE CCOUNT  
 BACK TO COMILE N-2 PRS. OF INST.  
 COMPILE LAST INST FOR  
 EXP GREATER OR EQUAL 2

BACK TO STANDARD AIL ROUTINE  
 SPECIAL OPS. LOAD COUNT OF 22 IN IR 4  
 COMPARE SPECIAL OP. FUNCTION NAME  
 IS THIRD WORD OF 1ST AIL ENTRY  
 NEW ROUTINE HANDLING ADD. SUBROUTINES  
 INCONSTANT AREA  
 NEW ROUTINE HANDLING ADD. SUBROUTINES  
 IRC TO CCELL  
 DECREASE CONTENTS OF IR 1 BY 2  
 END OF AIL REC  
 2 IS COMP. OF NO. OF WORDS OF CUR-  
 RENT AIL RECORD  
 TO GET NEXT AIL RECORD  
 NO OF WORDS OF AIL REC NOT A MULTIPLE OF 4

CHOOSE APPROPRIATE SPECIAL OP BRANCH  
 (XABS)  
 (ABS)  
 (XINT)  
 (INT)  
 (XFIX)  
 (FLOAT)  
 (XMOD)  
 (MOD)  
 (XSIGN)  
 (SIGN)  
 (XMAX0)  
 (MAX1 0)  
 (XMAX1B)  
 (MAX0B)  
 (XMIN0B)  
 (MINIB0)  
 (XMINIB)  
 (MINOB0)

INFO ON LOC OF ARG, CHECK FOR ALL 15

F3B07010  
 F3B07020  
 F3B07030  
 F3B07040  
 F3B07050  
 F3B07060  
 F3B07070  
 F3B07080  
 F3B07090  
 F3B07100  
 F3B07110  
 F3B07120  
 F3B07130  
 F3B07140  
 F3B07150  
 F3B07160  
 F3B07170  
 F3B07180  
 F3B07190  
 F3B07200  
 F3B07210  
 F3B07220  
 F3B07230  
 F3B07240  
 F3B07250  
 F3B07260  
 F3B07270  
 F3B07280  
 F3B07290  
 F3B07300  
 F3B07310  
 F3B07320  
 F3B07330  
 F3B07340  
 F3B07350  
 F3B07360  
 F3B07370  
 F3B07380  
 F3B07390  
 F3B07400  
 F3B07410  
 F3B07420  
 F3B07430  
 F3B07440  
 F3B07450  
 F3B07460  
 F3B07470  
 F3B07480  
 F3B07490  
 F3B07500  
 F3B07510  
 F3B07520  
 F3B07530  
 F3B07540

01346	0	60100	0	02324	STO M1CW+2	TO M1CW+2	F3B07550
01347	1	77777	1	01350	TXI M13555,1,-1	INCREMENT IR 1.	F3B07560
01350	0	50000	1	02327	M13555 CLA AIL,1	REL ADD AND TAG, IF ANY,	F3B07570
01351	0	60100	0	02325	STO M1CW+3	TO M1CW+3	F3B07580
01352	0	50000	0	02324	CLA M1CW+2	LOCATION OF ARGUMENT	F3B07590
01353	0	40200	0	02241	SUB M1ABC+20	SUBTRACT PLUS SIGN	F3B07600
01354	0	10000	0	01373	TZE M13575	ARG IN AC	F3B07610
01355	0	50000	0	02324	CLA M1CW+2	LOCATION OF ARGUMENT	F3B07620
01356	0	40200	0	02237	SUB M1ABC+18	ONE ASTERISK	F3B07630
01357	0	10000	0	01401	TZE M13580	ARG IN MQ	F3B07640
					ARG STORED		F3B07650
01360	0	50000	0	02325	CLA M1CW+3	RELATIVE ADDRESS AND TAG (IF ANY)	F3B07660
01361	-0	32000	0	02207	ANA M1CON+15	ARG TAGGED,	F3B07670
01362	0	10000	0	01366	TZE M13570	ARG NOT TAGGED	F3B07680
01363	-0	76000	0	00143	MSE 99	END OF CHTG TABLE	F3B07690
01364	0	07400	4	01016	TSX M12500,4	CHANGE TAG TABLE SEARCH	F3B07700
01365	0	76000	0	00143	PSE 99		F3B07710
01366	0	07400	4	00707	M13570 TSX CIT00,4	COMPILE FIRST INST	F3B07720
01367	0	00000	0	02322	HTR M1CW	INTERNAL FMLA NO.	F3B07730
01370	0	00000	0	02215	HTR M1ABC	COMPILE ACLA INSTRUCTION	F3B07740
01371	0	00000	0	02324	HTR M1CW+2		F3B07750
01372	0	00000	0	02325	HTR M1CW+3		F3B07760
					ARG IN AC,(STORED)		F3B07770
01373	0	07400	4	00707	M13575 TSX CIT00,4	COMPILE FIRST (SECOND) INST	F3B07780
01374	0	00000	0	02170	HTR M1CON	ZERO	F3B07790
01375	0	00000	0	02226	HTR M1ABC+9	SSP	F3B07800
01376	0	00000	0	02170	HTR M1CON	ZERO	F3B07810
01377	0	00000	0	02170	HTR M1CON	ZERO	F3B07820
01400	1	77777	1	00774	TXI M12035,1,-1	AIL ROUTINE	F3B07830
					ARG IN MQ		F3B07840
01401	0	50000	0	02242	M13580 CLA M1ABC+21	010000000000	F3B07850
01402	0	60100	0	02324	STO M1CW+2	LOCATION OF ARG	F3B07860
01403	0	07400	4	00707	TSX CIT00,4	COMPILE FIRST INST	F3B07870
01404	0	00000	0	02322	HTR M1CW	INT. FMLA NO.	F3B07880
01405	0	00000	0	02224	HTR M1ABC+7	STQ	F3B07890
01406	0	00000	0	02324	HTR M1CW+2		F3B07900
01407	0	00000	0	02325	HTR M1CW+3		F3B07910
01410	0	02000	0	01366	TRA M13570	COMPILE INSTRUCTION AS IF STORED	F3B07920
					XFIX, XINT, INT	BRANCH	F3B07930
01411	0	76000	0	00144	M13595 PSE 100	FLOATING PT	F3B07940
01412	0	07400	4	02156	M13600 TSX ERROR1+1,4	INFO ON LOC OF ARG	F3B07950
01413	0	60100	0	02324	STO M1CW+2	TO M1CW+2	F3B07960
01414	1	77777	1	01415	TXI M13605,1,-1		F3B07970
01415	0	50000	1	02327	M13605 CLA AIL,1	REL ADD AND TAG, IF ANY,	F3B07980
01416	0	60100	0	02325	STO M1CW+3	TO M1CW+3	F3B07990
01417	0	50000	0	02324	CLA M1CW+2	LOCATION OF ARG.	F3B08000
01420	0	40200	0	02241	SUB M1ABC+20	PLUS SIGN	F3B08010
01421	0	10000	0	01440	TZE M13630	ARG IN AC	F3B08020
01422	0	50000	0	02324	CLA M1CW+2	LOCATION OF ARG.	F3B08030
01423	0	40200	0	02237	SUB M1ABC+18	ASTERISK	F3B08040
01424	0	10000	0	01503	TZE M13670	ARG IN MQ	F3B08050
					ARG STORED		F3B08060
01425	0	50000	0	02325	CLA M1CW+3	4TH WORD	F3B08070
01426	-0	32000	0	02207	ANA M1CON+15	ARG TAGGED	F3B08080

01427	0	10000	0	01433	TZE M13620	NOT TAGGED	F3B08090
01430	-0	76000	0	00143	MSE 99	END OF CHTG TABLE	F3808100
01431	0	07400	4	01016	TSX M12500,4	CHTG TABLE SEARCH	F3808110
01432	0	76000	0	00143	PSE 99		F3808120
01433	0	07400	4	00707	M13620 TSX CIT00,4	COMPILE FIRST INST	F3808130
01434	0	00000	0	02322	HTR M1CW	INT. FMLA NO. IF ANY.	F3808140
01435	0	00000	0	02215	HTR M1A8C	CLA INSTRUCTION	F3808150
01436	0	00000	0	02324	HTR M1CW+2		F3808160
01437	0	00000	0	02325	HTR M1CW+3		F3808170
					ARG IN AC(STORED)		F3808180
01440	0	07400	4	00707	M13630 TSX CIT00,4	COMPILE FIRST (SECOND) INST	F3808190
01441	0	00000	0	02170	HTR M1CON	ZERO	F3808200
01442	0	00000	0	02227	HTR M1ABC+10	UFA OP CODE	F3808210
01443	0	00000	0	02243	HTR M1A8C+22	060000000000	F3808220
01444	0	00000	0	02170	HTR M1CON	ZERO	F3808230
01445	-0	76000	0	00144	MSE 100	TEST FOR FLOATING PT.	F3808240
01446	0	02000	0	01450	TRA M13640	XINT	F3808250
01447	0	02000	0	01475	TRA M13660	INT	F3808260
					XFIX, XINT, ARG	STORED, IN AC, IN MQ	F3808270
01450	0	07400	4	00707	M13640 TSX CIT00,4	COMPILE 4 INST	F3808280
01451	0	00000	0	02170	HTR M1CON	ZERO	F3808290
01452	0	00000	0	02220	HTR M1ABC+3	LRS INSTRUCTION	F3808300
01453	0	00000	0	02170	HTR M1CON	ZERO	F3808310
01454	0	00000	0	02170	HTR M1CON	ZERO	F3808320
01455	0	07400	4	00707	TSX CIT00,4		F3808330
01456	0	00000	0	02170	HTR M1CON		F3808340
01457	0	00000	0	02230	HTR M1ABC+11	ANA	F3808350
01460	0	00000	0	02243	HTR M1ABC+22	060000000000	F3808360
01461	0	00000	0	02176	HTR M1CON+6		F3808370
01462	0	07400	4	00707	TSX CIT00,4	+000001000000	F3808380
01463	0	00000	0	02170	HTR M1CON		F3808390
01464	0	00000	0	02223	HTR M1A8C+6	LLS	F3808400
01465	0	00000	0	02170	HTR M1CON		F3808410
01466	0	00000	0	02170	HTR M1CON		F3808420
01467	0	07400	4	00707	TSX CIT00,4		F3808430
01470	0	00000	0	02170	HTR M1CON		F3808440
01471	0	00000	0	02221	HTR M1A8C+4	ALS	F3808450
01472	0	00000	0	02170	HTR M1CON		F3808460
01473	0	00000	0	02203	HTR M1CON+11	+000022000000	F3808470
01474	1	77777	1	00774	TXI M12035,1,-1	CONTINUE WITH ROUTINE	F3808480
					INT, ARG STORED, IN AC, IN MQ		F3808490
01475	0	07400	4	00707	M13660 TSX CIT00,4	COMPILE 1 INST	F3808500
01476	0	00000	0	02170	HTR M1CON		F3808510
01477	0	00000	0	02231	HTR M1A8C+12	FAD	F3808520
01500	0	00000	0	02243	HTR M1A8C+22	060000000000	F3808530
01501	0	00000	0	02170	HTR M1CON	ZERO	F3808540
01502	1	77777	1	00774	TXI M12035,1,-1	CONTINUE WITH AIL ROUTINE	F3808550
					XFIX, XINT, INT, ARG IN MQ		F3808560
01503	0	50000	0	02242	M13670 CLA M1A8C+21	COMPILE FIRST INST	F3808570
01504	0	60100	0	02324	STO M1CW+2	010000000000	F3808580
01505	0	07400	4	00707	TSX CIT00,4		F3808590
01506	0	00000	0	02322	HTR M1CW	INT. FMLA NO.	F3808600
01507	0	00000	0	02224	HTR M1A8C+7	STQ	F3808610
01510	0	00000	0	02324	HTR M1CW+2		F3808620

01511	0	00000	0	02325	HTR M1CW+3			F3B08630
01512	0	02000	0	01433	TRA M13620	TRANSFER TO CONTINUE AS STORED		F3B08640
					ALL MUTIVARIATE	FUNCTIONS		F3B08650
01513	0	76000	0	00144	M13680 PSE 100	PLACE SENSE SW. ON FOR FIXPT.		F3B08660
01514	0	50000	1	02325	M13681 CLA AIL-2,1	TEST INTERNAL FORMULA NO.		F3B08670
01515	0	40200	0	02211	SUB M1CON+17	-37777777777. SHOULD BE AT		F3B08680
01516	0	10000	0	02155	TZE ERROR1	LEAST TWO ARGUMENTS FOR MULTIVARIATE FCNS.		F3B08690
01517	0	50000	1	02327	CLA AIL,1	LOCATION OF ARGUMENT		F3B08700
01520	0	60100	0	02324	RET3 STO M1CW+2	LOCATION OF ARGUMENT		F3B08710
01521	1	77777	1	01522	TXI M13685,1,-1	ADJUST COUNT IN IR 1.		F3B08720
01522	0	50000	1	02327	M13685 CLA AIL,1	REL ADD + TAG OF		F3B08730
01523	0	60100	0	02325	STO M1CW+3	FIRST ARG TO M1CW+3		F3B08740
01524	1	77777	1	01525	TXI M13690,1,-1			F3B08750
01525	-0	75400	1	00000	M13690 PXD 0,1	END OF AIL REC		F3B08760
01526	0	34000	0	02305	CAS M1ALWN	2S COMPLIMENT OF NO. OF WORDS		F3B08770
01527	0	02000	0	01532	TRA M13700	IN AIL RECORD		F3B08780
01530	0	07400	4	00341	TSX M10210,4	BRING IN NEXT AIL REC.		F3B08790
01531	0	07400	4	00004	TSX 4,4	NO OF WORDS OF AIL REC NOT A MULTIPLE OF 4		F3B08800
01532	0	50000	0	02325	M13700 CLA M1CW+3	REL. ADDRESS + TAG, IF ANY		F3B08810
01533	-0	32000	0	02207	ANA M1CON+15	+000000002000		F3B08820
01534	0	10000	0	01540	TZE M13710	FIRST ARG TAGGED		F3B08830
01535	-0	76000	0	00143	MSE 99	END OF CHTG TABLE		F3B08840
01536	0	07400	4	01016	TSX M12500,4	CHTG TABLE SEARCH		F3B08850
01537	0	76000	0	00143	PSE 99			F3B08860
01540	0	50000	0	02201	M13710 CLA M1CON+9	SIGN, MODULO OR MAX, MIN		F3B08870
01541	0	34000	0	02312	CAS CCELL	COMPARE TO 10		F3B08880
01542	0	76100	0	00000	NOP			F3B08890
01543	0	02000	0	01706	TRA M13770	MAX OR MIN BRANCH		F3B08900
01544	0	50000	0	02175	CLA M1CON+5	SIGN OR MODULO, +000012000000		F3B08910
01545	0	34000	0	02312	CAS CCELL			F3B08920
01546	0	76100	0	00000	NOP			F3B08930
01547	0	02000	0	02122	TRA M13950	SIGN BRANCH		F3B08940
01550	-0	76000	0	00144	MSE 100	XMOD OR MOD		F3B08950
01551	0	02000	0	01604	TRA M13735	FLOATING PT., MOD BRANCH		F3B08960
					XMOD BRANCH			F3B08970
01552	0	07400	4	00707	TSX CIT00,4	COMPILE 3 INST, FOR MULTIVARIATE		F3B08980
01553	0	00000	0	02322	HTR M1CW	XMOD.		F3B08990
01554	0	00000	0	02232	HTR M1ABC+13	CLM		F3B09000
01555	0	00000	0	02170	HTR M1CON			F3B09010
01556	0	00000	0	02170	HTR M1CON			F3B09020
01557	0	07400	4	00707	TSX CIT00,4			F3B09030
01560	0	00000	0	02170	HTR M1CON			F3B09040
01561	0	00000	0	02216	HTR M1ABC+1	LDQ		F3B09050
01562	0	00000	0	02324	HTR M1CW+2	A		F3B09060
01563	0	00000	0	02325	HTR M1CW+3			F3B09070
01564	0	07400	4	00707	TSX CIT00,4			F3B09080
01565	0	00000	0	02170	HTR M1CON			F3B09090
01566	0	00000	0	02223	HTR M1ABC+6	LLS		F3B09100
01567	0	00000	0	02170	HTR M1CON			F3B09110
01570	0	00000	0	02170	HTR M1CON			F3B09120
01571	0	50000	0	02170	CLA M1CON	ZERO, TO REPLACE 1,S.		F3B09130
01572	0	60100	0	02322	STO M1CW	INTERNAL FMLA NO.		F3B09140
01573	0	50000	0	02233	CLA M1ABC+14	DVP OP CODE		F3B09150
01574	0	60100	0	02323	STO M1CW+1			F3B09160



01575	1	77776	1	01576		TXI	M13725,1,-2
01576	0	07400	4	02156	M13725	TSX	ERROR1+1,4
01577	0	60100	0	02324		STO	M1CW+2
01600	1	77777	1	01601		TXI	M13730,1,-1
01601	0	50000	1	02327	M13730	CLA	AIL,1
01602	0	60100	0	02325		STO	M1CW+3
01603	1	77777	1	00762		TXI	M12022,1,-1
						MOD	BRANCH
01604	0	07400	4	00707	M13735	TSX	CIT00,4
01605	0	00000	0	02322		HTR	M1CW
01606	0	00000	0	02250		HTR	M1ABC+27
01607	0	00000	0	02324		HTR	M1CW+2
01610	0	00000	0	02325		HTR	M1CW+3
01611	0	50000	0	02324		CLA	M1CW+2
01612	0	60100	0	02320		STO	3WD
01613	0	50000	0	02325		CLA	M1CW+3
01614	0	60100	0	02321		STO	4WD
01615	1	77776	1	01616		TXI	M13741,1,-2
01616	0	07400	4	02156	M13741	TSX	ERROR1+1,4
01617	0	60100	0	02324		STO	M1CW+2
01620	1	77777	1	01621		TXI	M13745,1,-1
01621	0	50000	1	02327	M13745	CLA	AIL,1
01622	0	60100	0	02325		STO	M1CW+3
01623	-0	32000	0	02207		ANA	M1CON+15
01624	0	10000	0	01630		TZE	M13755
01625	-0	76000	0	00143		MSE	99
01626	0	07400	4	01016		TSX	M12500,4
01627	0	76000	0	00143		PSE	99
01630	0	07400	4	00707	M13755	TSX	CIT00,4
01631	0	00000	0	02170		HTR	M1CON
01632	0	00000	0	02234		HTR	M1ABC+15
01633	0	00000	0	02324		HTR	M1CW+2
01634	0	00000	0	02325		HTR	M1CW+3
01635	0	07400	4	00707		TSX	CIT00,4
01636	0	00000	0	02170		HTR	M1CON
01637	0	00000	0	02224		HTR	M1ABC+7
01640	0	00000	0	02242		HTR	M1ABC+21
01641	0	00000	0	02170		HTR	M1CON
01642	0	07400	4	00707		TSX	CIT00,4
01643	0	00000	0	02170		HTR	M1CON
01644	0	00000	0	02215		HTR	M1ABC
01645	0	00000	0	02242		HTR	M1ABC+21
01646	0	00000	0	02170		HTR	M1CON
01647	0	07400	4	00707		TSX	CIT00,4
01650	0	00000	0	02170		HTR	M1CON
01651	0	00000	0	02227		HTR	M1ABC+10
01652	0	00000	0	02243		HTR	M1ABC+22
01653	0	00000	0	02170		HTR	M1CON
01654	0	07400	4	00707		TSX	CIT00,4
01655	0	00000	0	02170		HTR	M1CON
01656	0	00000	0	02231		HTR	M1ABC+12
01657	0	00000	0	02243		HTR	M1ABC+22
01660	0	00000	0	02170		HTR	M1CON
01661	0	07400	4	00707		TSX	CIT00,4

DECREASE IR 1 BY 2  
CHECK FOR END OF CALLING SEQUENCE  
SYMBOLIC ADDRESS OF 2ND ARGUM.

REL ADD AND TAG OF  
SECOND ARG TO M1CW+3  
BACK TO END OF AIL ROUTINE

COMPILE FIRST INST

CLS A

SAVE FIRST ARG IN 3RD WORD

SAVE REL ADD AND TAG IN 4WD

CHECK THAT NEXT WORD IS LAST ARG.  
SYMBOLIC AD OF 2ND ARG.

REL ADD AND TAG OF  
SECOND ARG TO M1CW+3  
TEST IF TAGGED  
SECOND ARG TAGGED  
END OF CHTG TABLE  
BACK TO AIL ROUTINE

COMPILE LAST 9 INSTS

FDP B

STQ  
010000000000

CLA  
010000000000

UFA  
060000000000

FAD  
060000000000

F3809170  
F3809180  
F3809190  
F3809200  
F3809210  
F3809220  
F3809230  
F3809240  
F3809250  
F3809260  
F3809270  
F3809280  
F3809290  
F3809300  
F3809310  
F3809320  
F3809330  
F3809340  
F3809350  
F3809360  
F3809370  
F3809380  
F3809390  
F3809400  
F3809410  
F3809420  
F3809430  
F3809440  
F3809450  
F3809460  
F3809470  
F3809480  
F3809490  
F3809500  
F3809510  
F3809520  
F3809530  
F3809540  
F3809550  
F3809560  
F3809570  
F3809580  
F3809590  
F3809600  
F3809610  
F3809620  
F3809630  
F3809640  
F3809650  
F3809660  
F3809670  
F3809680  
F3809690  
F3809700

01662	0	00000	0	02170	HTR	M1CON		F3B09710
01663	0	00000	0	02222	HTR	M1ABC+5	STO	F3B09720
01664	0	00000	0	02242	HTR	M1ABC+21	0600000000000	F3B09730
01665	0	00000	0	02170	HTR	M1CON		F3B09740
01666	0	07400	4	00707	TSX	CIT00,4		F3B09750
01667	0	00000	0	02170	HTR	M1CON		F3B09760
01670	0	00000	0	02216	HTR	M1ABC+1	LDQ	F3B09770
01671	0	00000	0	02242	HTR	M1ABC+21	0600000000000	F3B09780
01672	0	00000	0	02170	HTR	M1CON		F3B09790
01673	0	07400	4	00707	TSX	CIT00,4		F3B09800
01674	0	00000	0	02170	HTR	M1CON		F3B09810
01675	0	00000	0	02225	HTR	M1ABC+8	FMP	F3B09820
01676	0	00000	0	02324	HTR	M1CW+2	B	F3B09830
01677	0	00000	0	02325	HTR	M1CW+3		F3B09840
01700	0	07400	4	00707	TSX	CIT00,4		F3B09850
01701	0	00000	0	02170	HTR	M1CON		F3B09860
01702	0	00000	0	02231	HTR	M1ABC+12	FAD	F3B09870
01703	0	00000	0	02320	HTR	3WD	A	F3B09880
01704	0	00000	0	02321	HTR	4WD		F3B09890
01705	1	77777	1	00774	TXI	M12035,1,-1	AIL ROUTINE	F3B09900
						MAX, MIN BRANCH		F3B09910
01706	0	50000	0	02200	M13770	CLA	M1CON+8	+000004000000
01707	0	34000	0	02312	CAS	CCELL	FOR MIN BRANCH	F3B09920
01710	0	76100	0	00000	NOP			F3B09930
01711	0	02000	0	02017	TRA	M13855	MIN BRANCH	F3B09940
						ALL MAX ROUTINES		F3B09950
01712	0	07400	4	00707	TSX	CIT00,4	COMPILE FIRST INST	F3B09960
01713	0	00000	0	02322	HTR	M1CW		F3B09970
01714	0	00000	0	02215	HTR	M1ABC	CLA A1	F3B09980
01715	0	00000	0	02324	HTR	M1CW+2	SYMBOLIC ADDRESS OF FIRST ARGUMENT	F3B09990
01716	0	00000	0	02325	HTR	M1CW+3	RELATIVE ADDRESS + TAG, IF ANY	F3B10000
01717	0	50000	1	02327	M13780	CLA	AIL,1	F3B10010
01720	0	60100	0	02313	STO	ENDT	END MARK, IF ANY, TO ENDT, THIS WILL	F3B10020
01721	1	77776	1	01722	TXI	M13785,1,-2	BE ALL 15 IF END.	F3B10030
01722	0	50000	1	02327	M13785	CLA	AIL,1	F3B10040
01723	0	60100	0	02324	STO	M1CW+2	SYMBOLIC ADDRESS OF ITH ARG, I EQUAL 2,....,N	F3B10050
01724	1	77777	1	01725	TXI	M13790,1,-1	TO M1CW+2	F3B10060
01725	0	50000	1	02327	M13790	CLA	AIL,1	F3B10070
01726	0	60100	0	02325	STO	M1CW+3	REL ADD AND TAG OF	F3B10080
01727	-0	32000	0	02207	ANA	M1CON+15	ITH ARG TO M1CW+3	F3B10090
01730	0	10000	0	01734	TZE	M13800	TEST IF ITHARGUMENT TAGGED	F3B10100
01731	-0	76000	0	00143	MSE	99	ITH ARG NOT TAGGED	F3B10110
01732	0	07400	4	01016	TSX	M12500,4	END OF CHTG TABLE	F3B10120
01733	0	76000	0	00143	PSE	99	CHTG TABLE SEARCH	F3B10130
01734	0	50000	0	02200	M13800	CLA	M1CON+8	F3B10140
01735	0	34000	0	02312	CAS	CCELL	000004000000	F3B10150
01736	0	76100	0	00000	NOP		COMPARE FOR MINIMUM BR.	F3B10160
01737	0	02000	0	02025	TRA	M13860	MIN BRANCH	F3B10170
01740	0	07400	4	00707	TSX	CIT00,4	COMPILE 3 INSTRUCTIONS FOR	F3B10180
01741	0	00000	0	02170	HTR	M1CON	ITH ARG	F3B10190
01742	0	00000	0	02216	HTR	M1ABC+1	LDQ	F3B10200
01743	0	00000	0	02324	HTR	M1CW+2	ITH ARGUMENT I=2,....,N	F3B10210
01744	0	00000	0	02325	HTR	M1CW+3		F3B10220
01745	0	07400	4	00707	TSX	CIT00,4		F3B10230
								F3B10240

01746	0	00000	0	02170	HTR M1CON			F3810250
01747	0	00000	0	02235	HTR M1ABC+16	TLQ		F3810260
01750	0	00000	0	02245	HTR M1ABC+24	+170000000000		F3810270
01751	0	00000	0	02177	HTR M1CON+7	+000002000000		F3810280
01752	0	07400	4	00707	TSX CIT00,4			F3810290
01753	0	00000	0	02170	HTR M1CON			F3810300
01754	0	00000	0	02215	HTR M1ABC	CLA AI		F3810310
01755	0	00000	0	02324	HTR M1CW+2			F3810320
01756	0	00000	0	02325	HTR M1CW+3			F3810330
01757	0	50000	0	02313	CLA ENDT	I=N		F3810340
01760	0	40200	0	02211	SUB M1CON+17	-377777777777		F3810350
01761	0	10000	0	01771	TZE M13830	LAST ARGUMENT		F3810360
01762	1	77777	1	01763	TXI M13820,1,-1			F3810370
01763	-0	75400	1	00000	PXD 0,1	END OF AIL REC		F3810380
01764	0	34000	0	02305	CAS M1ALWN	2S COMPL. OF NO. OF WORS OF AIL REC		F3810390
01765	0	02000	0	01717	TRA M13780	TO COMPILE INSTR. FOR ALL ARGUMENTS		F3810400
01766	0	07400	4	00341	TSX M10210,4	PACK TO READ NEXT AIL RECORD		F3810410
01767	0	07400	4	00004	TSX 4,4	NO OF WORDS OF AIL REC NOT A MULTIPLE OF 4		F3810420
01770	0	02000	0	01717	TRA M13780			F3810430
01771	-0	76000	0	00144	MSE 100	TEST FOR FIXED PT AND TURN OFF SW.		F3810440
01772	1	77777	1	00774	TXI M12035,1,-1	OUT FOR XMAX0, MAX1, XMIN0, MINI		F3810450
01773	0	50000	0	02312	CLA CCELL	NO. OF FUNCTION FIXED MAX.		F3810460
01774	0	77100	0	00022	ARS 18			F3810470
01775	0	76000	0	00001	LBT	TEST FOR FLOATING MAX OR MIN		F3810480
01776	0	02000	0	01440	TRA M13630	XMAX1, XMIN1, FIXED MAX OR MIN		F3810490
01777	0	07400	4	00707	TSX CIT00,4	COMPILE LAST 3 INSTRUCTIONS		F3810500
02000	0	00000	0	02170	HTR M1CON	FOR MAX0, MIN0		F3810510
02001	0	00000	0	02220	HTR M1ABC+3	LRS		F3810520
02002	0	00000	0	02170	HTR M1CON			F3810530
02003	0	00000	0	02203	HTR M1CON+11	18		F3810540
02004	0	07400	4	00707	TSX CIT00,4			F3810550
02005	0	00000	0	02170	HTR M1CON			F3810560
02006	0	00000	0	02244	HTR M1ABC+23	ORA		F3810570
02007	0	00000	0	02243	HTR M1ABC+22	060000000000		F3810580
02010	0	00000	0	02170	HTR M1CON			F3810590
02011	0	07400	4	00707	TSX CIT00,4			F3810600
02012	0	00000	0	02170	HTR M1CON			F3810610
02013	0	00000	0	02231	HTR M1ABC+12	FAD		F3810620
02014	0	00000	0	02243	HTR M1ABC+22	060000000000		F3810630
02015	0	00000	0	02170	HTR M1CON			F3810640
02016	1	77777	1	00774	TXI M12035,1,-1	BACK TO END OF AIL ROUTINE		F3810650
					ALL MIN ROUTINE	COMPILE FIRST INST		F3810660
02017	0	07400	4	00707	M13855 TSX CIT00,4	COMPILE FIRST INST		F3810670
02020	0	00000	0	02322	HTR M1CW			F3810680
02021	0	00000	0	02216	HTR M1ABC+1	LDQ A1		F3810690
02022	0	00000	0	02324	HTR M1CW+2			F3810700
02023	0	00000	0	02325	HTR M1CW+3			F3810710
02024	0	02000	0	01717	TRA M13780	TO STORE NEEDED INFORMATION		F3810720
02025	0	07400	4	00707	M13860 TSX CIT00,4	COMPILE 3 INST FOR		F3810730
02026	0	00000	0	02170	HTR M1CON	ITH ARG		F3810740
02027	0	00000	0	02215	HTR M1ABC	CLA A2.....N		F3810750
02030	0	00000	0	02324	HTR M1CW+2			F3810760
02031	0	00000	0	02325	HTR M1CW+3			F3810770
02032	0	07400	4	00707	TSX CIT00,4			F3810780

02033	0	00000	0	02170	HTR M1CON		F3810790
02034	0	00000	0	02235	HTR M1ABC+16	TLQ	F3810800
02035	0	00000	0	02245	HTR M1ABC+24	+0000002000000	F3810810
02036	0	00000	0	02177	HTR M1CON+7	+1700000000000	F3810820
02037	0	07400	4	00707	TSX CIT00,4		F3810830
02040	0	00000	0	02170	HTR M1CON		F3810840
02041	0	00000	0	02216	HTR M1ABC+1	LDQ A2....N	F3810850
02042	0	00000	0	02324	HTR M1CW+2		F3810860
02043	0	00000	0	02325	HTR M1CW+3		F3810870
02044	0	50000	0	02313	CLA ENDT	I=N	F3810880
02045	0	40200	0	02211	SUB M1CON+17	-377777777777	F3810890
02046	0	10000	0	02050	TZE M13880	LAST ARGUMENT	F3810900
02047	1	77777	1	01763	TXI M13820,1,-1	TO TEST IF END OF AIL RECORD.	F3810910
02050	0	07400	4	00707	M13880 TSX CIT00,4	COMPILE TWO INST	F3810920
02051	0	00000	0	02170	HTR M1CON		F3810930
02052	0	00000	0	02224	HTR M1ABC+7	STQ	F3810940
02053	0	00000	0	02242	HTR M1ABC+21	0100000000000	F3810950
02054	0	00000	0	02170	HTR M1CON		F3810960
02055	0	07400	4	00707	TSX CIT00,4		F3810970
02056	0	00000	0	02170	HTR M1CON		F3810980
02057	0	00000	0	02215	HTR M1ABC	CLA	F3810990
02060	0	00000	0	02242	HTR M1ABC+21	0100000000000	F3811000
02061	0	00000	0	02170	HTR M1CON		F3811010
02062	0	02000	0	01771	TRA M13830	TEST SW, 4 AND GO TO VARIOUS ROUTES	F3811020
					FLOAT BRANCH		F3811030
02063	0	07400	4	02156	M13900 TSX ERROR1+1,4	TO TEST IF ONLY ONE ARGUMENT	F3811040
02064	0	60100	0	02324	STO M1CW+2	SYMBOLIC LOCATION OF ARGUMENT	F3811050
02065	1	77777	1	02066	TXI M13905,1,-1		F3811060
02066	0	50000	1	02327	M13905 CLA AIL,1	REL ADD AND TAG, IF ANY,	F3811070
02067	0	60100	0	02325	STO M1CW+3	TO M1CW+3	F3811080
02070	0	50000	0	02324	CLA M1CW+2		F3811090
02071	0	40200	0	02241	SUB M1ABC+20	PLUS SIGN	F3811100
02072	0	10000	0	02111	TZE M13915	ARG IN AC	F3811110
02073	0	50000	0	02324	CLA M1CW+2		F3811120
02074	0	40200	0	02237	SUB M1ABC+18	ASTERISK	F3811130
02075	0	10000	0	02112	TZE M13920	ARG IN MQ	F3811140
					ARG STORED		F3811150
02076	0	50000	0	02325	CLA M1CW+3	RELATIVE ADDRESS AND TAG, IF ANY	F3811160
02077	-0	32000	0	02207	ANA M1CON+15	ARG TAGGED	F3811170
02100	0	10000	0	02104	TZE M13910	ARG NOT TAGGED	F3811180
02101	-0	76000	0	00143	MSE 99		F3811190
02102	0	07400	4	01016	TSX M12500,4	CHTG TABLE SEARCH	F3811200
02103	0	76000	0	00143	PSE 99		F3811210
02104	0	07400	4	00707	M13910 TSX CIT00,4		F3811220
02105	0	00000	0	02322	HTR M1CW		F3811230
02106	0	00000	0	02215	HTR M1ABC	CLA A	F3811240
02107	0	00000	0	02324	HTR M1CW+2		F3811250
02110	0	00000	0	02325	HTR M1CW+3		F3811260
					ARG IN AC (STORED)		F3811270
02111	0	02000	0	01777	M13915 TRA M13830+6	TO COMILE 3 INSTR. AS MAX OR MIN	F3811280
					ARG IN MQ		F3811290
02112	0	50000	0	02242	M13920 CLA M1ABC+21	0100000000000	F3811300
02113	0	60100	0	02324	STO M1CW+2	SYMBOLIC LOCATION	F3811310
02114	0	07400	4	00707	TSX CIT00,4		F3811320

02115	0	00000	0	02322	HTR M1CW			F3B11330
02116	0	00000	0	02224	HTR M1ABC+7	STQ		F3B11340
02117	0	00000	0	02324	HTR M1CW+2			F3B11350
02120	0	00000	0	02325	HTR M1CW+3			F3B11360
02121	0	02000	0	02104	TRA M13910	TO COMPILE A CLA INSTRUCTION		F3B11370
					XSIGN, SIGN BRANCH			F3B11380
02122	0	07400	4	00707	M13950 TSX CIT00,4			F3B11390
02123	0	00000	0	02322	HTR M1CW			F3B11400
02124	0	00000	0	02215	HTR M1ABC	CLA A1		F3B11410
02125	0	00000	0	02324	HTR M1CW+2			F3B11420
02126	0	00000	0	02325	HTR M1CW+3			F3B11430
02127	1	77776	1	02130	TXI M13955,1,-2	DECREASE IR 1 BY -2		F3B11440
02130	0	07400	4	02156	M13955 TSX ERROR1+1,4	TEST IF ONLY 2 ARGUMENTS		F3B11450
02131	0	60100	0	02324	STO M1CW+2	SYMBOLIC ADDRESS.		F3B11460
02132	1	77777	1	02133	TXI M13960,1,-1			F3B11470
02133	0	50000	1	02327	M13960 CLA AIL,1	REL ADD AND TAG, IF ANY, TO		F3B11480
02134	0	60100	0	02325	STO M1CW+3	M1CW+3		F3B11490
02135	-0	32000	0	02207	ANA M1CON+15	ARG TAGGED		F3B11500
02136	0	10000	0	02142	TZE M13965	ARG NOT TAGGED		F3B11510
02137	-0	76000	0	00143	MSE 99			F3B11520
02140	0	07400	4	01016	TSX M12500,4	BACK TO CHTG TABLE SEARCH		F3B11530
02141	0	76000	0	00143	PSE 99			F3B11540
02142	0	07400	4	00707	M13965 TSX CIT00,4			F3B11550
02143	0	00000	0	02170	HTR M1CON			F3B11560
02144	0	00000	0	02216	HTR M1ABC+1	LDQ A2		F3B11570
02145	0	00000	0	02324	HTR M1CW+2			F3B11580
02146	0	00000	0	02325	HTR M1CW+3			F3B11590
02147	0	07400	4	00707	TSX CIT00,4			F3B11600
02150	0	00000	0	02170	HTR M1CON			F3B11610
02151	0	00000	0	02223	HTR M1ABC+6	LLS		F3B11620
02152	0	00000	0	02170	HTR M1CON			F3B11630
02153	0	00000	0	02170	HTR M1CON			F3B11640
02154	1	77777	1	00774	TXI M12035,1,-1	AIL ROUTINE		F3B11650
02155	0	07400	4	00004	ERROR1 TSX 4,4	A MULTI VARIATE FN. HAS ONLY 1 VARIABLE		F3B11660
02156	0	50000	1	02325	ERR1 CLA AIL-2,1	INT. FORMULA NO. OF ARGUMENT		F3B11670
02157	0	40200	0	02211	SUB M1CON+17	-377777777777		F3B11680
02160	-0	10000	0	02163	TNZ ERROR2	SHOULD BE ALL 1S, FOR PARTICULAR ROUTINE		F3B11690
02161	0	50000	1	02327	CLA AIL,1	LOCATION OF ARGUMENT		F3B11700
02162	0	02000	4	00001	TRA 1,4	BACK TO CONTINUE		F3B11710
02163	0	07400	4	00004	ERROR2 TSX 4,4	A UNIVARIATE OR 2VAR. ROUTINE NOT CORRECT		F3B11720
02164	+0000000000005				MIECTR DEC 5,6,0,0			F3B11730
02165	+0000000000006							
02166	+0000000000000							
02167	+0000000000000							
02170	+0000000000000				M1CON DEC 0,1,2,3,4,10B17,1B17,2B17,4B17,8B17,17B17,18B17,35B17			F3B11740
02171	+0000000000001							
02172	+0000000000002							
02173	+0000000000003							
02174	+0000000000004							
02175	+0000120000000							
02176	+0000010000000							
02177	+0000020000000							
02200	+0000040000000							
02201	+0000100000000							

02202	+000021000000		
02203	+000022000000		
02204	+000043000000		
02205	+077777000000	OCT 77777000000,77777,2000,370,77777777777,1000001,312,314	F3B11750
02206	+000000077777		
02207	+000000002000		
02210	+000000000370		
02211	-377777777777		
02212	+0000001000001		
02213	+000000000312		
02214	+000000000314		
02215	234321000000	MIABC BCD 7CLA000LDQ000MPY000LRS000ALS000ST0000LLS000	F3B11760
02216	432450000000		
02217	444770000000		
02220	435162000000		
02221	214362000000		
02222	626346000000		
02223	434362000000		
02224	626350000000	BCD 7STQ000FMP000SSP000UFA000ANA000FAD000CLM000	F3B11770
02225	264447000000		
02226	626247000000		
02227	642621000000		
02230	214521000000		
02231	262124000000		
02232	234344000000		
02233	246547000000	BCD 7DVP000FDP000TLQ000RTB000*000000*0000+00000	F3B11780
02234	262447000000		
02235	634350000000		
02236	516322000000		
02237	540000000000		
02240	005400000000		
02241	200000000000		
02242	010000000000	BCD 31000006000000ORA000	F3B11790
02243	060000000000		
02244	465121000000		
02245	+170000000000	OCT 170000000000	F3B11800
02246	626724000000	BCD 3SXD000WTB000CLS000	F3B11810
02247	666322000000		
02250	234362000000		
02251	672122626060	MID BCD 7XABS ABS XINT INT XFIX FLOAT XMOD	F3B11820
02252	212262606060		
02253	673145636060		
02254	314563606060		
02255	672631676060		
02256	264346216360		
02257	674446246060		
02260	444624606060	BCD 4MOD XSIGN SIGN XMAXO	F3B11830
02261	676231274560		
02262	623127456060		
02263	674421670060		
02264	442167016060	BCD 7MAX1 XMAX1 MAXO XMINO MIN1 XMIN1 MINO	F3B11840
02265	674421670160		
02266	442167006060		
02267	674431450060		

02270	443145016060								
02271	674431450160								
02272	443145006060								
02273	0 00000 0 00000	COMBOX		TAG OR INT FMLA NO OF FORTAG ENTRY DURING CHTG EDIT		F3B11850			
02274	0 00000 0 00000	CHTGL		2S COMP OF NO OF WORDS IN CHTG TABLE		F3B11860			
02275	0 00000 0 00000	CHTGE1		2S COMP OF CUR. ENTRY POINT IN CHTG TABLE		F3B11870			
02276	0 00000 0 00000	CHTGE2		2S COMP OF NEXT ENTRY POINT IN CHTG TABLE		F3B11880			
02277	0 00000 0 00000	CHTGFN		INT FMLA NO APPEARING IN CURRENT CHTG TABLE BLOCK		F3B11890			
02300	0 00000 0 00000	SXTXL		LENGTH OF SXTX TABLE		F3B11900			
02301	0 00000 0 00000	SXLOC		LOCATION WORD OF CURRENT DO INST		F3B11910			
02302	0 00000 0 00000	CBOX		IRC DURING CHTG TABLE SEARCH, SXTX TABLE SEARCH		F3B11920			
02303	0 00000 0 00000	TAGBOX		TAG OF CUR AIL INST DURING CHTG TABLE SEARCH		F3B11930			
02304	0 00000 0 00000	M1DOWN		2S COMP OF NO OF WORDS IN CUR DO REC		F3B11940			
02305	0 00000 0 00000	M1ALWN		2S COMP OF NO OF WORDS IN CUR AIL REC		F3B11950			
02306	0 00000 0 00000	M1TRC		NO OF REC READS		F3B11960			
02307	0 00000 0 00000	M1DOFN		INT FMLA NO OF CUR BLOCK OF DO INST		F3B11970			
02310	0 00000 0 00000	M1ALFN		INT FMLA NO OF CUR BLOCK OF AIL INST		F3B11980			
02311	0 00000 0 00000	CCOUNT		COUNT NO OF PAIRS OF MPY,LRS INST FOR EXP ROUTINE		F3B11990			
02312	0 00000 0 00000	CCELL		IND SPECIAL OP ROUTINE		F3B12000			
02313	0 00000 0 00000	ENDT		IND APPEARANCE OF END MARK IN MAX,MIN ROUTINES		F3B12010			
02314	0 00000 0 00000	E1C		CELL FOR SAVING MQ		F3B12020			
02315	0 00000 0 00000	E2C		CELL FOR SAVING IRA		F3B12030			
02316	0 00000 0 00000	E3C		CELL FOR SAVING IRB		F3B12040			
02317	0 00000 0 00000	BBOX		2S COMP OF NO OF WORDS ALREADY ENTERED IN BLOCK		F3B12050			
02320	0 00000 0 00000	3WD		TEMP STORAGE FOR THID WD OF COMPILED INST		F3B12060			
02321	0 00000 0 00000	4WD		TEMP STORAGE FORFOURTH WD OF COMPILED INST		F3B12070			
		02322 M1CW	BSS 4	FOUR WORD INST SPACE FOR COMPILING		F3B12080			
02326	0 00000 0 00000	PZE		LENGTH OF FORTAG TABLE		F3B12090			
		02327 FORTAG	BSS 1500	AIL,DO,CIB LATER SHARE THIS BLOCK		F3B12100			
		05263 UCHTG	BSS 300			F3B12110			
		05737 ERAS	BSS 2	ORIGEN + SXTX LENGTH, SXTX, CHTG LENGTH		F3B12120			
		05741 CHTG	BSS 600			F3B12130			
		02327 AIL	SYN	FORTAG		F3B12140			
		02473 DO	SYN	FORTAG+100		F3B12150			
		02637 CIB	SYN	FORTAG+200		F3B12160			
		03003 SXTX	SYN	FORTAG+300		F3B12170			
		07073 OP1	SYN	3643					
		00030	END	24		F3B13420			

1  
1  
1FIN  
REM MASTER RECORD CARD = FN058

MASTER RECORD CARD = FN058

THE FOLLOWING PROGRAM CONSTITUTES THE SECOND SECTION OF THE  
MERGE. IT PREPARES THE TIFGO FILE OF COMPILED INSTRUCTIONS  
- I.E., THE INSTRUCTIONS WHICH ARE NEEDED TO COMPLETE THE  
TRANSLATION OF CONTROL FORMULAS AS WELL AS THOSE WHICH BECOME  
NECESSARY AS A RESULT OF THE INTERRELATION BETWEEN CONTROL  
FORMULAS AND DO FORMULAS - FOR LATER MERGING WITH THE FILE  
INSTRUCTIONS CREATED IN THE FIRST SECTION OF THE MERGE

		00030	ORG	24			F3B00010
					POSITIONING OF TAPE 2, TAPE 3, TAPE 4		F3B00080
00030	0	53400	4	02274	M20000 LXA M2CON,4	PLACE A ZERO IN IR 4	F3B00090
00031	1	00013	4	00032	COR1 TXI M20000+2,4,11	ADD 13 FOR SPACING TAPE TO TIFGO TABLE	F3B00100
00032	0	76200	0	00222	RDS 146	POSITION TAPE 2 TO TIFGO TABLE, BY SPACING	F3B00110
00033	2	00001	4	00032	TIX M20000+2,4,1	OVER 7 RECORDS	F3B00120
00034	0	77200	0	00223	REW 147	REWIND TAPE 3	F3B00130
00035	0	77200	0	00224	REW 148	REWIND TAPE 4	F3B00140
					PROGRAM TO READ	TRASTO FROM DRUM	F3B00150
00036	0	53400	4	02330	LXA M2ECTR,4	LOAD COUNT OF 5 FOR ERROR ROUTINE	F3B00160
00037	0	76200	0	00303	RDRA2 RDR 3	SELECT DRUM 3	F3B00170
00040	0	46000	0	02332	LDA 0456	LOCATE DRUM ADDRESS OF TRASTO	F3B00180
00041	0	70000	0	02345	CPY TRSWC	WORD COUNT	F3B00190
00042	0	70000	0	02346	CPY WCCHS	CHECK SUM	F3B00200
00043	0	50000	0	02345	CLA TRSWC	DOES WORD COUNT AGREE	F3B00210
00044	0	40200	0	02346	SUB WCCHS	WITH ITS CHECK SUM	F3B00220
00045	0	10000	0	00050	TZE RDRA1	YES	F3B00230
00046	2	00001	4	00037	TIX RDRA2,4,1	NO, TRY 4 MORE TIMES	F3B00240
00047	0	07400	4	00004	TSX 4,4	WORD COUNT NOT EQUAL TO CHECK SUM	F3B00250
00050	0	50000	0	02345	RDRA1 CLA TRSWC	ARE THERE ENTRIES IN TRASTO	F3B00260
00051	0	10000	0	00321	TZE RTT00	NO	F3B00270
00052	0	40000	0	02333	ADD ORTRST	INITIAL LOCATION OF TRASTO WORK AREA	F3B00280
00053	0	62100	0	00062	STA RDRB1	INITIALIZE ADDRESSES OF CPY INSTR.	F3B00290
00054	0	62100	0	00070	STA RDRB2		F3B00300
00055	0	62100	0	00100	STA RDRB5		F3B00310
00056	0	53400	4	02330	LXA M2ECTR,4	LOAD COUNT OF 5 FOR ERROR ROUTINE	F3B00320
00057	0	76200	0	00303	RDRA3 RDR 3	SELECT DRUM 3	F3B00330
00060	0	53400	1	02345	LXA TRSWC,1	PLACE WORD COUNT IN IR 1	F3B00340
00061	0	46000	0	02336	LDA 0460	INITIAL DRUM ADDRESS	F3B00350
00062	0	70000	1	00000	RDRB1 CPY 0,1	AND COPY ALL OF THE TRASTO	F3B00360
00063	2	00001	1	00062	TIX RDRB1,1,1	ENTRIES.	F3B00370
00064	0	76000	0	00000	CLM	CLEAR ACC.	F3B00380
00065	0	53400	1	02345	LXA TRSWC,1	NEW WORD COUNT IN IR 1	F3B00390
00066	-3	00000	1	00074	RDRB3 TXL RDRB4,1,0	CHECK COUNT DURING LOOP	F3B00400
00067	0	53400	2	02331	LXA L(3),2	PLACE COUNT OF 3 IN IR 2 IN ORDER TO	F3B00410
00070	0	36100	1	00000	RDRB2 ACL 0,1	ADD LOGICALLY EVERYTHREE TRASTO	F3B00420
00071	-2	00001	1	00074	TXN RDRB4,1,1	WORDS, COUNT ALL ENTRIES	F3B00430
00072	2	00001	2	00070	TIX RDRB2,2,1	IR 2 USED TO COUNT EVERY THREE	F3B00440
00073	1	77777	1	00066	TXI RDRB3,1,-1	WORDS, SKIP OVER 4TH WORD.	F3B00450
00074	0	60200	0	02347	RDRB4 SLW CHS1	AFTER ALL WORDS ARE COUNTED	F3B00460
00075	0	76000	0	00000	CLM	CLEAR ACC	F3B00470
00076	0	53400	1	02345	LXA TRSWC,1	WORD COUNT OF TRASTO ENTRIES	F3B00480
00077	1	77775	1	00100	TXI RDRB5,1,-3	ADD OLD CHECKS SUMS, AND	F3B00490
00100	0	36100	1	00000	RDRB5 ACL 0,1	ACCUMULATE SUM LOGICALLY	F3B00500
							F3B00510



00101	2	00004	1	00100	TIX RDRB5,1,4		F3B00520
00102	0	60200	0	02350	SLW CHS2		F3B00530
00103	0	50000	0	02347	CLA CHS1	COMPUTED CHECK SUM.	F3B00540
00104	0	40200	0	02350	SUB CHS2	DO CHECK SUMS MATCH	F3B00550
00105	0	10000	0	00110	TZE STRS	YES	F3B00560
00106	2	00001	4	00057	TIX RDRA3,4,1	IF THE SUMS DONT AGREE, TRY 4 MORE TIMES	F3B00570
00107	0	07400	4	00004	TSX 4,4	CHECK SUMS INCORRECT AFTER 5 TRIES	F3B00580
					PROGRAM TO SORT	TRASTO ENTRIES BY TYPE	F3B00590
00110	0	50000	0	02345	CLA TRSWC	INITIALIZATION OF ALL MODIFIED ADDRESSES	F3B00600
00111	0	40000	0	02333	ADD TRSORG		F3B00610
00112	0	62100	0	00135	STA A4		F3B00620
00113	0	62100	0	00140	STA A1		F3B00630
00114	0	62100	0	00144	STA A3		F3B00640
00115	0	62100	0	00154	STA B1		F3B00650
00116	0	62100	0	00162	STA B5		F3B00660
00117	0	62100	0	00174	STA C3		F3B00670
00120	0	62100	0	00204	STA D2		F3B00680
00121	0	62100	0	00210	STA D3		F3B00690
00122	0	62100	0	00220	STA E2		F3B00700
00123	0	62100	0	00226	STA E4		F3B00710
00124	0	62100	0	00240	STA F3		F3B00720
00125	-0	63400	0	02337	SXD 1BOX,0	CLEAR DECREMENT OF WORK AREA	F3B00730
00126	-0	63400	0	02340	SXD 2BOX,0		F3B00740
00127	-0	63400	0	02341	SXD 3BOX,0		F3B00750
00130	-0	63400	0	02342	SXD 4BOX,0		F3B00760
00131	-0	63400	0	02343	SXD 5BOX,0		F3B00770
00132	-0	63400	0	02344	SXD 6BOX,0		F3B00780
00133	0	53400	1	02345	LXA TRSWC,1	WORD COUNT IN IR 1	F3B00790
00134	1	77776	1	00135	TXI A4,1,-2		F3B00800
00135	0	50000	1	00000	CLA 0,1	OBTAIN WORD 3, AND SEPARATE TYPES	F3B00810
00136	-0	12000	0	00203	TMI D1	ENTRY IS TYPE 4,5 OR 6, 3RD WD. MINUS	F3B00820
					ENTRY IS TYPE 1, 2, OR 3		F3B00830
00137	1	00002	1	00140	TXI A1,1,2	RESTORE LOOP COUNT	F3B00840
00140	0	50000	1	00000	CLA 0,1	OBTAIN WORD 1	F3B00850
00141	0	12000	0	00153	TPL B2	ENTRY IS TYPE 1 OR 2	F3B00860
					ENTRY IS TYPE 3		F3B00870
00142	0	53400	4	02277	LXA L(4),4	MINUS IN FIRST AND THIRD WDS.	F3B00880
00143	-0	53400	2	02341	LXD 3BOX,2	PLACE A COUNT OF 4 IN IR 4,	F3B00890
00144	-0	50000	1	00000	CAL 0,1	CLEAR IR 2, AND GET 1ST WD. IN ACC	F3B00900
00145	0	60200	2	04030	SLW TYPE3,2	PLACE IN PROPER MEMORY LOC.	F3B00910
00146	1	77777	2	00147	TXI A2,2,-1	SUB. 1 FROM IR 2, LOOP BACK	F3B00920
00147	-0	63400	2	02341	SXD 3BOX,2	TO GET 4 WORDS IN PROPER LOC.	F3B00930
00150	-2	00001	1	00247	TNX PACK,1,1	EXIT FOR END OF TRASTO	F3B00940
00151	2	00001	4	00144	TIX A3,4,1		F3B00950
00152	1	77776	1	00135	TXI A4,1,-2	PICK UP NEXT TRASTO ENTRY	F3B00960
					ENTRY IS TYPE 1 OR 2		F3B00970
00153	1	77777	1	00154	TXI B1,1,-1		F3B00980
00154	-0	50000	1	00000	CAL 0,1	OBTAIN WORD 2	F3B00990
00155	-0	32000	0	02335	ANA MASK	EXAMINE PREFIX, IF TYPE 2 HAS MINUS SIGN	F3B01000
00156	0	10000	0	00171	TZE C1	ENTRY IS TYPE 1	F3B01010
					ENTRY IS TYPE 2		F3B01020
00157	1	00001	1	00160	TXI B3,1,1	RESTORE COUNT TO GET WORD 1	F3B01030
00160	0	53400	4	02277	LXA L(4),4	COUNT 4 IN IR 4	F3B01040
00161	-0	53400	2	02340	LXD 2BOX,2	CLEAR IR 2	F3B01050

00162	-0	50000	1	00000	B5	CAL 0,1	1ST WORD	F3B01060
00163	0	60200	2	03210		SLW TYPE2,2	PROPER OUTPUT AREA	F3B01070
00164	1	77777	2	00165		TXI B4,2,-1	DECREASE COUNT IN IR 2 BY -1	F3B01080
00165	-0	63400	2	02340	B4	SXD 2BOX,2	PLACE COUNT IN PROPER PLACE	F3B01090
00166	-2	00001	1	00247		TNX PACK,1,1	EXIT	F3B01100
00167	2	00001	4	00162		TIX B5,4,1		F3B01110
00170	1	77776	1	00135		TXI A4,1,-2	TRANSFER BACK TO SORT NEXT ENTRY	F3B01120
						ENTRY IS TYPE 1		F3B01130
00171	1	00001	1	00172	C1	TXI C2,1,1	RESTORE COUNT TO GET WD 1.	F3B01140
00172	0	53400	4	02277	C2	LXA L(4),4		F3B01150
00173	-0	53400	2	02337		LXD 1BOX,2		F3B01160
00174	-0	50000	1	00000	C3	CAL 0,1		F3B01170
00175	0	60200	2	02370		SLW TYPE1,2	STORE IN PROPER MEMORY POSITION	F3B01180
00176	1	77777	2	00177		TXI C4,2,-1		F3B01190
00177	-0	63400	2	02337	C4	SXD 1BOX,2	SAVE COUNT OF TYPE 1 ENTRY	F3B01200
00200	-2	00001	1	00247		TNX PACK,1,1	EXIT	F3B01210
00201	2	00001	4	00174		TIX C3,4,1		F3B01220
00202	1	77776	1	00135		TXI A4,1,-2	BACK FOR NEXT ENTRY	F3B01230
						ENTRY IS TYPE 4, 5 OR 6		F3B01240
00203	1	00002	1	00204	D1	TXI D2,1,2		F3B01250
00204	0	50000	1	00000	D2	CLA 0,1	OBTAIN WORD 1	F3B01260
00205	0	12000	0	00217		TPL E1	ENTRY IS TYPE 4 OR 6	F3B01270
						ENTRY IS TYPE 5		F3B01280
00206	0	53400	4	02277		LXA L(4),4		F3B01290
00207	-0	53400	2	02343		LXD 5BOX,2	COUNT OF ENTRIES FOR TYPE 5	F3B01300
00210	-0	50000	1	00000	D3	CAL 0,1		F3B01310
00211	0	60200	2	05470		SLW TYPE5,2	STORE IN PROPER MEMORY POS.	F3B01320
00212	1	77777	2	00213		TXI D4,2,-1		F3B01330
00213	-0	63400	2	02343	D4	SXD 5BOX,2	SAVE COUNT FOR TYPE 1 ENTRY	F3B01340
00214	-2	00001	1	00247		TNX PACK,1,1	EXIT	F3B01350
00215	2	00001	4	00210		TIX D3,4,1		F3B01360
00216	1	77776	1	00135		TXI A4,1,-2	OBTAIN NEXT TRASTO ENTRY	F3B01370
						ENTRY IS TYPE 4 OR 6		F3B01380
00217	1	77777	1	00220	E1	TXI E2,1,-1		F3B01390
00220	-0	50000	1	00000	E2	CAL 0,1	OBTAIN WORD 2	F3B01400
00221	-0	32000	0	02335		ANA MASK	TEST IF MINUS	F3B01410
00222	0	10000	0	00235		TZE F1	ENTRY IS TYPE 4	F3B01420
						ENTRY IS TYPE 6		F3B01430
00223	1	00001	1	00224		TXI E3,1,1	RESTORE COUNT TO GET WORD 1	F3B01440
00224	0	53400	4	02277	E3	LXA L(4),4		F3B01450
00225	-0	53400	2	02344		LXD 6BOX,2		F3B01460
00226	-0	50000	1	00000	E4	CAL 0,1		F3B01470
00227	0	60200	2	06310		SLW TYPE6,2	STORE IN PROPER MEMORY POS	F3B01480
00230	1	77777	2	00231		TXI E5,2,-1		F3B01490
00231	-0	63400	2	02344	E5	SXD 6BOX,2	SAVE COUNT FOR TYPE 6 ENTRY	F3B01500
00232	-2	00001	1	00247		TNX PACK,1,1	EXIT	F3B01510
00233	2	00001	4	00226		TIX E4,4,1		F3B01520
00234	1	77776	1	00135		TXI A4,1,-2	OBTAIN NEXT TRASTO ENTRY	F3B01530
						ENTRY IS TYPE 4		F3B01540
00235	1	00001	1	00236	F1	TXI F2,1,1		F3B01550
00236	0	53400	4	02277	F2	LXA L(4),4		F3B01560
00237	-0	53400	2	02342		LXD 4BOX,2		F3B01570
00240	-0	50000	1	00000	F3	CAL 0,1		F3B01580
00241	0	60200	2	04650		SLW TYPE4,2	STORE IN PROPER MEMORY POS	F3B01590

4:2

00242	1	77777	2	00243		TXI F4,2,-1		F3801600
00243	-0	63400	2	02342	F4	SXD 4BOX,2	SAVE COUNT FOR TYPE 4 ENTRY	F3801610
00244	-2	00001	1	00247		TNX PACK,1,1	EXIT	F3801620
00245	2	00001	4	00240		TIX F3,4,1		F3801630
00246	1	77776	1	00135		TXI A4,1,-2	OBTAIN NEXT TRASTO ENTRIES	F3801640
						TYPE 2 TO TRASTO		F3801650
00247	-0	53400	1	02337	PACK	LXD 1BOX,1	PACK TRASTO ENTRIES TO GETHER	F3801660
00250	-0	53400	4	02340		LXD 2BOX,4	IN MEMORY IN ORDER OF TYPES 1 THRU	F3801670
00251	-3	00000	4	00261		TXL H5,4,0	6.	F3801680
00252	-0	53400	2	02274		LXD L(0),2		F3801690
00253	-0	50000	2	03210	G4	CAL TYPE2,2		F3801700
00254	0	60200	1	02370		SLW TYPE1,1		F3801710
00255	1	77777	1	00256		TXI G1,1,-1		F3801720
00256	1	77777	2	00257	G1	TXI G2,2,-1		F3801730
00257	1	00001	4	00260	G2	TXI G3,4,1		F3801740
00260	3	00000	4	00253	G3	TXH G4,4,0	INDEX C REDUCES TO ZERO	F3801750
						TYPE 3 TO TRASTO		F3801760
00261	-0	53400	2	02341	H5	LXD 3BOX,2		F3801770
00262	-3	00000	2	00271		TXL I5,2,0		F3801780
00263	-0	50000	4	04030	H4	CAL TYPE3,4		F3801790
00264	0	60200	1	02370		SLW TYPE1,1		F3801800
00265	1	77777	1	00266		TXI H1,1,-1		F3801810
00266	1	77777	4	00267	H1	TXI H2,4,-1		F3801820
00267	1	00001	2	00270	H2	TXI H3,2,1		F3801830
00270	3	00000	2	00263	H3	TXH H4,2,0		F3801840
						TYPE 4 TO TRASTO		F3801850
00271	-0	53400	4	02342	I5	LXD 4BOX,4		F3801860
00272	-3	00000	4	00301		TXL J5,4,0		F3801870
00273	-0	50000	2	04650	I4	CAL TYPE4,2		F3801880
00274	0	60200	1	02370		SLW TYPE1,1		F3801890
00275	1	77777	1	00276		TXI I1,1,-1		F3801900
00276	1	77777	2	00277	I1	TXI I2,2,-1		F3801910
00277	1	00001	4	00300	I2	TXI I3,4,1		F3801920
00300	3	00000	4	00273	I3	TXH I4,4,0		F3801930
						TYPE 5 TO TRASTO		F3801940
00301	-0	53400	2	02343	J5	LXD 5BOX,2		F3801950
00302	-3	00000	2	00311		TXL K5,2,0		F3801960
00303	-0	50000	4	05470	J4	CAL TYPE5,4		F3801970
00304	0	60200	1	02370		SLW TYPE1,1		F3801980
00305	1	77777	1	00306		TXI J1,1,-1		F3801990
00306	1	77777	4	00307	J1	TXI J2,4,-1		F3802000
00307	1	00001	2	00310	J2	TXI J3,2,1		F3802010
00310	3	00000	2	00303	J3	TXH J4,2,0		F3802020
						TYPE 6 TO TRASTO		F3802030
00311	-0	53400	4	02344	K5	LXD 6BOX,4		F3802040
00312	-3	00000	4	00321		TXL CALL,4,0		F3802050
00313	-0	50000	2	06310	K4	CAL TYPE6,2		F3802060
00314	0	60200	1	02370		SLW TYPE1,1		F3802070
00315	1	77777	1	00316		TXI K1,1,-1		F3802080
00316	1	77777	2	00317	K1	TXI K2,2,-1		F3802090
00317	1	00001	4	00320	K2	TXI K3,4,1		F3802100
00320	3	00000	4	00313	K3	TXH K4,4,0		F3802110
						PROGRAM TO READ TIFGO TABLE		F3802120
00321	-0	76000	0	00012	RTT00 RTT	TURN OFF TAPE CHECK INDICATOR AND LITES		F3802130

00322	0	76100	0	00000	00321	CALL	SYN	RTT00			F3B02140
								NOP			F3B02150
00323	0	53400	2	02330			LXA	M2ECTR,2	LOAD COUNT OF 5 FOR ERROR ROUTINE		F3B02160
00324	0	76200	0	00222	RTTD3		RTB	2	SELECT TAPE 2 TO READ TIFGO		F3B02170
00325	0	70000	0	05471			CPY	TIFGO-1			F3B02180
00326	0	50000	0	05471			CLA	TIFGO-1	IDENTIFICATION FOR TIFGO TABLE		F3B02190
00327	0	40200	0	02276			SUB	L(2)	IS TABLE CALLED FOR		F3B02200
00330	0	10000	0	00332			TZE	RTTD1	YES		F3B02210
00331	0	07400	4	00004			TSX	4,4	NOT TIFGO FILE		F3B02220
00332	0	70000	0	05471	RTTD1		CPY	TIFGO-1	GET WORD COUNT		F3B02230
00333	0	53400	1	02274			LXA	L(0),1			F3B02240
00334	0	50000	0	05471			CLA	TIFGO-1	TEST WD. COUNT		F3B02250
00335	0	10000	0	00342			TZE	RTTD5	NO TIFGO ENTRIES		F3B02260
00336	0	70000	1	05472	RTTD2		CPY	TIFGO,1	COPY		F3B02270
00337	1	77777	1	00336			TXI	RTTD2,1,-1	LOOP		F3B02280
00340	0	07400	4	00004			TSX	4,4	EOF INCORRECT		F3B02290
00341	0	76600	0	00333			IOD		EOR		F3B02300
00342	-0	76000	0	00012	RTTD5		RTT		IS TAPE CHECK ON		F3B02310
00343	0	02000	0	00346			TRA	RTTD4	YES		F3B02320
00344	-0	63400	1	05471			SXD	TIFGO-1,1	NO		F3B02330
00345	0	02000	0	00351			TRA	RTTE1	TO READ TRAD TABLE		F3B02340
00346	0	76400	0	00202	RTTD4		BST	2			F3B02350
00347	2	00001	2	00324			TIX	RTTD3,2,1			F3B02360
00350	0	07400	4	00004	COR4		TSX	4,4	ERROR READING TIFGO TABLE AFTER 5 TRIES		F3B02370
								PROGRAM TO READ	TRAD TABLE		F3B02380
00351	0	53400	2	02330	RTTE1		LXA	M2ECTR,2	LOAD COUNT OF 5 FOR ERROR ROUTINE		F3B02390
00352	0	76200	0	00222	RTTE5		RTB	2	READ TRAD TABLE FROM TAPE 2		F3B02400
00353	0	70000	0	06766			CPY	TRAD-1	IDENTIFICATION NUMBER		F3B02410
00354	0	50000	0	06766			CLA	TRAD-1			F3B02420
00355	0	40200	0	02331			SUB	L(3)	IS TABLE CALLED FOR		F3B02430
00356	0	10000	0	00360			TZE	RTTE2	YES		F3B02440
00357	0	07400	4	00004			TSX	4,4	TRAD TABLE NOT CALLED FOR		F3B02450
00360	0	70000	0	06766	RTTE2		CPY	TRAD-1	GET WORD COUNT		F3B02460
00361	0	50000	0	06766			CLA	TRAD-1	TEST WORD COUNT FOR NUMBER OF ENTRIES		F3B02470
00362	0	10000	0	00370			TZE	RTTE6			F3B02480
00363	0	53400	1	02274			LXA	L(0),1			F3B02490
00364	0	70000	1	06767	RTTE3		CPY	TRAD,1	COPY TRAD ENTRIES AND GET 2S COMP.		F3B02500
00365	1	77777	1	00364			TXI	RTTE3,1,-1	OF NUMBER OF ENTRIES.		F3B02510
00366	0	07400	4	00004			TSX	4,4	EOF INCORRECT		F3B02520
00367	0	76600	0	00333			IOD		EOR		F3B02530
00370	-0	76000	0	00012	RTTE6		RTT		IS TAPE CHECK ON		F3B02540
00371	0	02000	0	00373			TRA	RTTE4	YES		F3B02550
00372	0	02000	0	00376			TRA	RTTC0	NO		F3B02560
00373	0	76400	0	00202	RTTE4		BST	2	ERROR ROUTINE FOR READING TRAD		F3B02570
00374	2	00001	2	00352			TIX	RTTE5,2,1	ENTRIES		F3B02580
00375	0	07400	4	00004	COR5		TSX	4,4	AFTER 5 TRIES		F3B02590
								PROGRAM TO READ	TRALEV		F3B02600
00376	0	76000	0	00000	RTTC0		CLM		CLEAR ACCUMULATOR		F3B02610
00377	0	60200	0	03210			SLW	TRALEV-1	SET WORD PRECEDING ENTRIES TO ZERO		F3B02620
00400	0	53400	2	02330	RTTC4		LXA	M2ECTR,2	LOAD COUNT OF 5 FOR ERROR ROUTINE		F3B02630
00401	0	76200	0	00224	RTTC2		RTB	4	READ TRALEV ENTRIES FROM TP. 4		F3B02640
00402	0	70000	0	03211			CPY	TRALEV	IDENTIFICATION		F3B02650
00403	-0	76000	0	00012			RTT		IS TAPE CHECK ON		F3B02660
00404	0	02000	0	00406			TRA	RTTC1	YES		F3B02670

00405 0 02000 0 00411 TRA RTTC3  
00406 0 76400 0 00204 RTTC1 BST 4  
00407 2 00001 2 00401 TIX RTTC2,2,1  
00410 0 07400 4 00004 COR6 TSX 4,4  
00411 0 50000 0 03211 RTTC3 CLA TRALEV  
00412 0 10000 0 00450 TZE OUT  
00413 0 53400 2 02330 LXA M2ECTR,2  
00414 -0 53400 1 02305 RTTA3 LXD M2CON+9,1  
00415 0 70000 1 03211 RTTA1 CPY TRALEV,1  
00416 1 77777 1 00415 TXI RTTA1,1,-1  
00417 0 07400 4 00004 TSX 4,4  
00420 0 76600 0 00333 IOD  
00421 -0 76000 0 00012 RTT  
00422 0 02000 0 00424 TRA RTTA2  
00423 0 02000 0 00431 TRA RTTB1  
00424 0 76400 0 00204 RTTA2 BST 4  
00425 0 76200 0 00224 RTB 4  
00426 0 70000 0 03211 CPY TRALEV  
00427 2 00001 2 00414 TIX RTTA3,2,1  
00430 0 07400 4 00004 COR7 TSX 4,4  
00431 -0 63400 1 00442 RTTB1 SXD RTTB4,1  
00432 0 53400 2 02330 LXA M2ECTR,2  
00433 0 76200 0 00224 RTTB5 RTB 4  
00434 -0 53400 1 00442 LXD RTTB4,1  
00435 0 70000 1 03211 RTTB2 CPY TRALEV,1  
00436 1 77777 1 00435 TXI RTTB2,1,-1  
00437 0 02000 0 00447 TRA RTTB6  
00440 0 76600 0 00333 IOD  
00441 -0 76000 0 00012 RTT  
00442 -3 00000 1 00444 RTTB4 TXL RTTB3,1  
00443 0 02000 0 00447 TRA RTTB6  
00444 0 76400 0 00204 RTTB3 BST 4  
00445 2 00001 2 00433 TIX RTTB5,2,1  
00446 0 07400 4 00004 COR8 TSX 4,4  
00447 -0 63400 1 03210 RTTB6 SXD TRALEV-1,1  
00450 0 50000 0 02345 OUT CLA TRSWC  
00451 0 76000 0 00006 COM  
00452 0 40000 0 02275 ADD M2CON+1  
00453 0 73400 1 00000 PAX 0,1  
00454 -0 63400 1 02367 SXD CTRSWC,1  
00455 -0 53400 1 02314 LXD M2CON+16,1  
00456 0 76200 0 00222 RDS RDS 146  
00457 0 70000 0 02366 CPY CPY M2CW+4  
00460 0 02000 0 00457 TRA CPY  
00461 0 02000 0 00463 TRA TIX  
00462 0 02000 0 00456 TRA RDS  
00463 2 00001 1 00456 TIX TIX RDS,1,1  
00464 0 77200 0 00224 REW REW 148  
00465 0 76000 0 00000 CLM  
00466 0 60200 0 02345 SLW TIFFN  
00467 0 60200 0 02346 SLW CTRAST  
00470 0 60200 0 02347 SLW ETRAL  
00471 0 60200 0 02350 SLW LEVNO  
00472 0 60200 0 02331 SLW CBOX

NO  
ERROR ROUTINE FOR READING TRALEV  
  
AFTER 5 TRIES  
IS TRALEV EMPTY  
YES  
LOAD COUNT OF 5 FOR ERROR ROUTINE  
RESET IR 1 TO ALL ONES  
COPY LOOP. ADD COUNT TO READ ADDRESS  
  
EOF INCORRECT  
EOR  
IS TAPE CHECK ON  
YES  
NO  
BACKSPACE TAPE 4  
READ AGAIN  
GET WORD COUNT  
TRY AGAIN TO READ IN ENTRIES  
ERROR READING TAPE 4  
SAVE WORD COUNT OF FIRST RECORD, 2S COMP.  
LOAD COUNT OF 5 FOR ERROR ROUTINE  
  
REPLACE COUNT IN IR 1 OF FIRST RECORD  
COPY SECOND RECORD ETC, IN PROPER PLACE  
SUBTRACT 1 FROM COUNT  
EOF  
EOR  
IS TAPE CHECK ON  
YES, COMPARE TO WORD COUNT OF FIRST  
RECORD, NO.  
  
ERROR TRYING TO READ TRALEV FROM TAPE 4  
SAVE TRALEV WORD COUNT  
TIFGO WORD COUNT.  
  
2S COMPLIMENT OF WORD COUNT  
IN IR 1  
SAVE WORD COUNT  
PLACE 5 IN IR 1  
MOVE UP TAPE 2, 3 FILES TO TIFGO  
FILE  
  
END OF RECORD  
  
TAPE 4 REWOUND  
SET ACC. TO ZERO  
REPLACE INDEX COUNTERS  
CELLS TO ZEROS

F3B02680  
F3B02690  
F3B02700  
F3B02710  
F3B02720  
F3B02730  
F3B02740  
F3B02750  
F3B02760  
F3B02770  
F3B02780  
F3B02790  
F3B02800  
F3B02810  
F3B02820  
F3B02830  
F3B02840  
F3B02850  
F3B02860  
F3B02870  
F3B02880  
F3B02890  
F3B02900  
F3B02910  
F3B02920  
F3B02930  
F3B02940  
F3B02950  
F3B02960  
F3B02970  
F3B02980  
F3B02990  
F3B03000  
F3B03010  
F3B03020  
F3B03030  
F3B03040  
F3B03050  
F3B03060  
F3B03070  
F3B03080  
F3B03090  
F3B03100  
F3B03110  
F3B03120  
F3B03130  
F3B03140  
F3B03150  
F3B03160  
F3B03170  
F3B03180  
F3B03190  
F3B03200  
F3B03210

00473	0	60200	0	02355	SLW BBOX		F3B03220
00474	0	60200	0	02332	SLW LOX		F3B03230
00475	0	60200	0	07324	SLW ASNO		F3B03240
00476	0	60200	0	07323	SLW EASCO		F3B03250
00477	0	60200	0	02356	SLW ETRAST		F3B03260
00500	0	60200	0	02357	SLW NETRAL		F3B03270
00501	0	60200	0	07322	SLW TFRCO		F3B03280
00502	0	53400	1	02274	LXA M2CON,1	INITIALIZE IR 1 TO ZERO	F3B03290
					M2 MAIN PROGRAM-	TIFGO FMLA NO NOT IN	F3B03300
					TRALEV		F3B03310
00503	-0	75400	1	00000	M21000 PXD 0,1	TEST TO SEE IF AT END OF TIFGO	F3B03320
00504	0	40200	0	05471	SUB TIFGO-1	NO. OF TIFGO ENTRIES	F3B03330
00505	0	10000	0	00751	TZE M21900	END OF TIFGO	F3B03340
00506	0	50000	1	05472	CLA TIFGO,1	FIRST WD. OF TIFGO ENTRY,	F3B03350
00507	0	62200	0	02345	STD TIFFN	SAVE INTERNAL FMLA. NO.	F3B03360
00510	-0	12000	0	00514	TMI M21010	SIGNIFIES AN IF	F3B03370
00511	-0	32000	0	02306	ANA M2CON+10	TEST DIFFERENT TYPES	F3B03380
00512	0	40200	0	02300	SUB M2CON+4		F3B03390
00513	0	10000	0	00730	TZE M21600	TIFGO ENTRY AN ASSIGN	F3B03400
00514	0	50000	0	02347	M21010 CLA ETRAL	DETERMINE CURRENT TIFGO ENTRY	F3B03410
00515	0	40200	0	03210	SUB TRALEV-1	FOR CORRESPONDING TRALEV ENTRY	F3B03420
00516	0	10000	0	00523	TZE M21020	END OF TRALEV	F3B03430
00517	-0	53400	2	02347	LXD ETRAL,2	IR 2, CURRENT TRALEV ENTRY	F3B03440
00520	0	50000	2	03211	CLA TRALEV,2	TRALEV, FMLA WD.	F3B03450
00521	0	40000	0	02345	ADD TIFFN	TIFGO FMLA NO.	F3B03460
00522	0	10000	0	00776	TZE M22000	TIFGO ENTRY IN TRALEV	F3B03470
00523	0	50000	1	05472	M21020 CLA TIFGO,1		F3B03480
00524	-0	12000	0	00672	TMI M21800	TIFGO ENTRY AN IF(E)	F3B03490
00525	-0	32000	0	02306	ANA M2CON+10		F3B03500
00526	0	10000	0	00536	TZE M21030	TIFGO ENTRY A GO TO A	F3B03510
00527	0	34000	0	02277	CAS M2CON+3		F3B03520
00530	1	77777	1	00650	TXI M21500,1,-1	TIFGO ENTRY AN IF OVERFLOW	F3B03530
00531	1	77777	1	00625	TXI M21400,1,-1	TIFGO ENTRY AN IF DIVCK	F3B03540
00532	0	34000	0	02276	CAS M2CON+2		F3B03550
00533	1	77777	1	00602	TXI M21300,1,-1	TIFGO ENTRY AN IF SENSE	F3B03560
00534	1	77777	1	00550	TXI M21100,1,-1	TIFGO ENTRY A GO TO (A),1	F3B03570
00535	1	77776	1	00503	TXI M21000,1,-2	TIFGO ENTRY A GO TO N(A)	F3B03580
					TIFGO ENTRY A GO TO A		F3B03590
00536	1	77777	1	00537	M21030 TXI M21030+1,1,-1		F3B03600
00537	0	50000	1	05472	CLA TIFGO,1	2ND WORD BETA IN ADDRESS	F3B03610
00540	0	76700	0	00022	ALS 18	SHIFT TO DECREMENT	F3B03620
00541	0	60100	0	02364	STO M2CW+2	3RD WD OF INSTRUCTION AREA	F3B03630
00542	0	07400	4	02177	TSX CIT200,4	COMPILE INSTRUCTION	F3B03640
00543	0	00000	0	02345	HTR TIFFN	ALPHA	F3B03650
00544	0	00000	0	02315	HTR M2ABC	TRA	F3B03660
00545	0	00000	0	02364	HTR M2CW+2	BETA	F3B03670
00546	0	00000	0	02274	HTR M2CON	0	F3B03680
00547	1	77777	1	00503	TXI M21000,1,-1		F3B03690
					TIFGO ENTRY A GO TO (A),1		F3B03700
00550	0	50000	1	05472	M21100 CLA TIFGO,1	2ND WORD OF TIFGO ENTRY	F3B03710
00551	0	73400	2	00000	PAX 0,2	CTRAD U IN IR 2	F3B03720
00552	-0	63400	2	02332	SXD LOX,2	SAVE CTAD U IN INDEX CELL DECR.	F3B03730
00553	-0	32000	0	02305	ANA M2CON+9	SAVE CTAD 1 IN ACCUMULATOR	F3B03740
00554	0	40000	0	02303	ADD M2CON+7	ADD ONE, CTAD 1+1	F3B03750

00555	0	40200	0	02332		SUB LOX	CTRAD U	F3B03760
00556	0	60100	0	02365		STO M2CW+3	4TH WD OF INSTRUCTION	F3B03770
00557	0	07400	4	02177	M21110	TSX CIT200,4	COMPILE	F3B03780
00560	0	00000	0	02345		HTR TIFFN	ALPHA	F3B03790
00561	0	00000	0	02274		HTR M2CON	ZERO	F3B03800
00562	0	00000	0	02345		HTR TIFFN	ALPHA	F3B03810
00563	0	00000	0	02365		HTR M2CW+3	NO. OF TRAD ENTRUES CTRAD 1+1-CTRAD 2	F3B03820
00564	1	00001	2	00565		TXI M21120,2,1	STEP UP COUNT TO NEXT TRAD ENTRY	F3B03830
00565	0	50000	1	05472	M21120	CLA TIFGO,1	2ND WORD OF TIFGO ENTRY	F3B03840
00566	0	62200	0	00600		STD M21140	STORE IN TXL INSTRUCTION	F3B03850
00567	0	50000	2	07361	M21125	CLA TRAD+250,2	BRING IN NEXT TRAD ENTRY	F3B03860
00570	0	76700	0	00022		ALS 18	PUT BETA1 IN DECREMENT	F3B03870
00571	0	60100	0	02364		STO M2CW+2	3RD WD. OF CIT	F3B03880
00572	0	07400	4	02177		TSX CIT200,4	COMPILE	F3B03890
00573	0	00000	0	02274		HTR M2CON	ZERO	F3B03900
00574	0	00000	0	02315		HTR M2ABC	TRA	F3B03910
00575	0	00000	0	02364		HTR M2CW+2	TRAD BI	F3B03920
00576	0	00000	0	02274		HTR M2CON	ZERO	F3B03930
00577	1	00001	2	00600		TXI M21140,2,1	STEP UP TRAD ENTRY	F3B03940
00600	-3	00000	2	00567	M21140	TXL M21125,2	TEST IF LAST TRAD ENTRY, NO	F3B03950
00601	1	77777	1	00503		TXI M21000,1,-1	BACK TO NEXT TIFGO.	F3B03960
						TIFGO ENTRY AN IF SENSE		F3B03970
00602	0	07400	4	02177	M21300	TSX CIT200,4	COMPILE	F3B03980
00603	0	00000	0	02345		HTR TIFFN	ALPHA	F3B03990
00604	0	00000	0	02274		HTR M2CON	ZERO	F3B04000
00605	0	00000	0	02274		HTR M2CON	ZERO	F3B04010
00606	0	00000	0	02274		HTR M2CON	ZERO	F3B04020
00607	0	50000	1	05472		CLA TIFGO,1	2ND. WORD OF TIFGO ENTRY	F3B04030
00610	-0	32000	0	02306		ANA M2CON+10	SAVE ADDRESS, BETA 2	F3B04040
00611	0	76700	0	00022		ALS 18	SHIFT TO DECREMENT	F3B04050
00612	0	53400	2	02276		LXA M2CON+2,2	LOAD 2 IN IR 2, 2 SETS OF INSTRUCTION	F3B04060
00613	0	60100	0	02364	M21310	STO M2CW+2	STORE BETA 2 IN 3RD WD.	F3B04070
00614	0	07400	4	02177		TSX CIT200,4	COMPILE	F3B04080
00615	0	00000	0	02274		HTR M2CON	ZERO	F3B04090
00616	0	00000	0	02315		HTR M2ABC	TRA	F3B04100
00617	0	00000	0	02364		HTR M2CW+2	BETA 2, BETA 1	F3B04110
00620	0	00000	0	02274		HTR M2CON	ZERO	F3B04120
00621	0	50000	1	05472		CLA TIFGO,1	2ND WORD	F3B04130
00622	-0	32000	0	02305		ANA M2CON+9	SAVE DECREMENT	F3B04140
00623	2	00001	2	00613		TIX M21310,2,1	COMPILE SECOND TRA	F3B04150
00624	1	77777	1	00503		TXI M21000,1,-1	BACK TO OBTAIN NEXT TIFGO	F3B04160
						TIFGO ENTRY AN IF DIV CK		F3B04170
00625	0	07400	4	02177	M21400	TSX CIT200,4	COMPILE	F3B04180
00626	0	00000	0	02345		HTR TIFFN	ALPHA	F3B04190
00627	0	00000	0	02274		HTR M2CON	ZERO	F3B04200
00630	0	00000	0	02274		HTR M2CON	ZERO	F3B04210
00631	0	00000	0	02274		HTR M2CON	ZERO	F3B04220
00632	0	50000	1	05472		CLA TIFGO,1	2ND WORD OF TIFGO ENTRY	F3B04230
00633	-0	32000	0	02305		ANA M2CON+9	SAVE DECREMENT	F3B04240
00634	0	53400	2	02276		LXA M2CON+2,2	COUNT OF 2 IN IR 2	F3B04250
00635	0	60100	0	02364	M21410	STO M2CW+2	COMPILE	F3B04260
00636	0	07400	4	02177		TSX CIT200,4	COMPILE	F3B04270
00637	0	00000	0	02274		HTR M2CON	ZERO	F3B04280
00640	0	00000	0	02315		HTR M2ABC	TRA	F3B04290

00641	0	00000	0	02364	HTR M2CW+2	BETA1,	F3B04300
00642	0	00000	0	02274	HTR M2CON	ZERO	F3B04310
00643	0	50000	1	05472	CLA TIFGO,1	2ND WORD	F3B04320
00644	-0	32000	0	02306	ANA M2CON+10	SAVE BETA 2	F3B04330
00645	0	76700	0	00022	ALS 1B	PLACE IN DECREMENT	F3B04340
00646	2	00001	2	00635	TIX M21410,2,1	COMPILE 2ND TRA INSTR.	F3B04350
00647	1	77777	1	00503	TXI M21000,1,-1	BACK TO GET NEXT TIFGO	F3B04360
					TIFGO ENTRY AN	IF OVERFLOW	F3B04370
00650	0	50000	1	05472	M21500 CLA TIFGO,1	2ND WORD OF TIFGO ENTRY	F3B04380
00651	-0	32000	0	02305	ANA M2CON+9	SAVE DECREMENT	F3B04390
00652	0	60100	0	02364	STO M2CW+2	3RD WORD, BETA 1	F3B04400
00653	0	07400	4	02177	TSX CIT200,4	COMPILE	F3B04410
00654	0	00000	0	02345	HTR TIFFN	ALPHA	F3B04420
00655	0	00000	0	02274	HTR M2CON	ZERO	F3B04430
00656	0	00000	0	02364	HTR M2CW+2	BETA 1	F3B04440
00657	0	00000	0	02274	HTR M2CON	ZERO	F3B04450
00660	0	50000	1	05472	CLA TIFGO,1	2ND WORD OF TIFGO ENTRY	F3B04460
00661	-0	32000	0	02306	ANA M2CON+10	SAVE BETA 2	F3B04470
00662	0	76700	0	00022	ALS 1B	SHIFT TO DECREMENT	F3B04480
00663	0	60100	0	02364	STO M2CW+2	3RD WORD OF COMPILED INSTRUCTIONS	F3B04490
00664	0	07400	4	02177	M21515 TSX CIT200,4	COMPILE	F3B04500
00665	0	00000	0	02274	HTR M2CON	ZERO	F3B04510
00666	0	00000	0	02315	HTR M2ABC	TRA	F3B04520
00667	0	00000	0	02364	HTR M2CW+2	BETA 2	F3B04530
00670	0	00000	0	02274	HTR M2CON	ZERO	F3B04540
00671	1	77777	1	00503	TXI M21000,1,-1	BACK TO NEXT TIFGO ENTRY	F3B04550
					TIFGO ENTRY AN	IF (E)	F3B04560
00672	-0	32000	0	02306	M21B00 ANA M2CON+10	SAVE ADDRESS OF 1ST WD, BETA 1	F3B04570
00673	0	76700	0	00022	ALS 1B	PLACE IN DECREMENT	F3B04580
00674	0	60100	0	02364	STO M2CW+2	3RD WORD OF CIT	F3B04590
00675	0	07400	4	02177	TSX CIT200,4	COMPILE	F3B04600
00676	0	00000	0	02345	HTR TIFFN	ALPHA	F3B04610
00677	0	00000	0	02274	HTR M2CON	ZERO	F3B04620
00700	0	00000	0	02274	HTR M2CON	ZERO	F3B04630
00701	0	00000	0	02274	HTR M2CON	ZERO	F3B04640
00702	1	77777	1	00703	TXI M21810,1,-1	STEP COUNT FOR 2ND TIFGO WORD	F3B04650
00703	0	50000	1	05472	M21B10 CLA TIFGO,1	2ND WD. OF TIFGO ENTRY	F3B04660
00704	-0	32000	0	02305	ANA M2CON+9	SAVE DECREMENT BETA 2	F3B04670
00705	0	60100	0	02366	STO M2CW+4	5TH WD.	F3B04680
00706	0	50000	0	02345	CLA TIFFN	ALPHA	F3B04690
00707	-0	50100	0	02301	ORA M2CON+5	10(8) INSTR. NO. WITHIN INTERNAL FMLANO.	F3B04700
00710	0	60100	0	02362	STO M2CW	INTERNAL FMLA NO.	F3B04710
00711	0	07400	4	02177	TSX CIT200,4	COMPILE	F3B04720
00712	0	00000	0	02362	HTR M2CW	ALPHA, 10(8)	F3B04730
00713	0	00000	0	02316	HTR M2ABC+1	TZE	F3B04740
00714	0	00000	0	02366	HTR M2CW+4	BETA 2 C(M2CW+4)	F3B04750
00715	0	00000	0	02274	HTR M2CON	ZERO	F3B04760
00716	0	50000	1	05472	CLA TIFGO,1	2ND WORD OF TIFGO ENTRY	F3B04770
00717	-0	32000	0	02306	ANA M2CON+10	SAVE ADDRESS. BETA 3	F3B04780
00720	0	76700	0	00022	ALS 1B	SHIFT TO DECREMENT	F3B04790
00721	0	60100	0	02366	STO M2CW+4	STORE BETA 3	F3B04800
00722	0	07400	4	02177	TSX CIT200,4	COMPILE	F3B04810
00723	0	00000	0	02274	HTR M2CON	ZERO	F3B04820
00724	0	00000	0	02317	HTR M2ABC+2	TPL	F3B04830



00725	0	00000	0	02366	HTR	M2CW+4	BETA 3 C(M2CW+4)	F3804840
00726	0	00000	0	02274	HTR	M2CON	ZERO	F3804850
00727	0	02000	0	00664	TRA	M21515	TR. TO COMPILE TRA TO BETA 1	F3804860
						TIFGO ENTRY AN	ASSIGN	F3804870
00730	0	50000	0	07324	M21600	CLA	ASNO	F3804880
00731	0	60100	0	02365		STO	M2CW+3	F3804890
00732	0	40000	0	02303		ADD	M2CON+7	F3804900
00733	0	60100	0	07324		STO	ASNO	F3804910
00734	0	07400	4	02177		TSX	CIT200,4	F3804920
00735	0	00000	0	02345		HTR	TIFFN	F3804930
00736	0	00000	0	02274		HTR	M2CON	F3804940
00737	0	00000	0	02307		HTR	M2CON+11	F3804950
00740	0	00000	0	02365		HTR	M2CW+3	F3804960
00741	1	77777	1	00742	M21610	TXI	M21610+1,1,-1	F3804970
00742	0	50000	1	05472		CLA	TIFGO,1	F3804980
00743	0	76700	0	00022		ALS	18	F3804990
00744	-0	53400	2	07323		LXD	EASCO,2	F3805000
00745	0	60100	2	07325		STO	ASCO,2	F3805010
00746	1	77777	2	00747		TXI	M21620,2,-1	F3805020
00747	-0	63400	2	07323	M21620	SXD	EASCO,2	F3805030
00750	1	77777	1	00503		TXI	M21000,1,-1	F3805040
							M2 TERMINAL ROUTINE	F3805050
00751	-0	53400	2	02355	M21900	LXD	BBOX,2	F3805060
00752	-0	53400	4	07322		LXD	TFRCO,4	F3805070
00753	1	00003	4	00754		TXI	M21900+3,4,3	F3805080
00754	-3	00000	2	00764		TXL	M21920,2,0	F3805090
00755	0	76600	0	00222		WRS	146	F3805100
00756	1	00001	4	00757		TXI	M21910-1,4,1	F3805110
00757	-0	53400	1	02274		LXD	M2CON,1	F3805120
00760	0	70000	1	06622	M21910	CPY	CIB2,1	F3805130
00761	1	77777	1	00762		TXI	M21910+2,1,-1	F3805140
00762	1	00001	2	00763		TXI	M21910+3,2,1	F3805150
00763	3	00001	2	00760		TXH	M21910,2,1	F3805160
00764	0	77000	0	00222	M21920	WEF	146	F3805170
00765	0	76400	0	00222		BST	146	F3805180
00766	2	00001	4	00765		TIX	M21920+1,4,1	F3805190
00767	0	76200	0	00222	M21925	RDS	146	F3805200
00770	0	70000	0	02366		CPY	M2CW+4	F3805210
00771	0	02000	0	00770		TRA	M21925+1	F3805220
00772	0	02000	0	00774		TRA	M22000-2	F3805230
00773	0	02000	0	00767		TRA	M21925	F3805240
00774	0	76200	0	00221		RTB	1	F3805250
00775	0	02000	0	00004		TRA	4	F3805260
							M2-MAIN PROGRAM-TIFGO FMLA NO IN	F3805270
							TRALEV	F3805280
00776	1	77777	2	00777	M22000	TXI	M22000+1,2,-1	F3805290
00777	-0	63400	2	02347		SXD	ETRAL,2	F3805300
01000	-0	53400	2	02274		LXD	M2CON,2	F3805310
01001	0	07400	4	01456		TSX	M22700,4	F3805320
01002	0	02000	0	01004		TRA	M22006	F3805330
01003	0	02000	0	01015		TRA	M22015	F3805340
01004	-0	53400	2	02347	M22006	LXD	ETRAL,2	F3805350
01005	0	50000	2	03211		CLA	TRALEV,2	F3805360
01006	-0	12000	0	01013		TMI	M22013	F3805370
							UPDATE TRALEV ENTRY	
							POINT, SAVE IN PROPER CELL	
							RESET IR 2 WITH ZERO	
							TRASTO FMLA NO SEARCH, M2 SUBROUTINE	
							CUR TIFGO FMLA NO NOT IN TRASTO	
							CUR TIFGO FMLA NO IN TRASTO	
							2S COMPL. OF TRALEV ENTRY PT. COUNT	
							TRALEV ENTRY	
							IS IT START OF NEXT ENTRY 2	

01007	-0	75400	2	00000	PXD 0,2	TRALEV ENTRY PT CT. IN ACC	F3B05380
01010	0	40200	0	03210	SUB TRALEV-1	TRALEV WORD COUNT	F3B05390
01011	0	10000	0	01013	TZE M22013	IS IT END OF TRALEV TABLE, YES	F3B05400
01012	1	77777	2	01005	TXI M22006+1,2,-1	NO, UPDATE TRALEV TABLE	F3B05410
01013	-0	63400	2	02347	M22013 SXD ETRAL,2	START OF NEXT ENTRY, SAVE COUNT	F3B05420
01014	0	02000	0	00523	TRA M21020	OF TRALEV, BACK TO COMPILE INSTR.	F3B05430
01015	-0	63400	2	02356	M22015 SXD ETRAST,2	SAVE TRASTO ENTRY PT.	F3B05440
01016	0	50000	0	02274	CLA M2CON	INITIALIZE ADDCO	F3B05450
01017	0	60100	0	02333	STO ADDCO		F3B05460
01020	0	50000	1	05472	CLA TIFGO,1	OBTAIN TIFGO TYPE, TRANSFER TO ROUTINES	F3B05470
01021	-0	12000	0	01360	TMI M22600	IF(E)	F3B05480
01022	-0	32000	0	02306	ANA M2CON+10		F3B05490
01023	0	10000	0	01033	TZE M22020	GO TO A	F3B05500
01024	0	34000	0	02277	CAS M2CON+3		F3B05510
01025	1	77777	1	01344	TXI M22500,1,-1	IF OVERFLOW	F3B05520
01026	1	77777	1	01252	TXI M22400,1,-1	IF DIV CK	F3B05530
01027	0	34000	0	02276	CAS M2CON+2		F3B05540
01030	1	77777	1	01236	TXI M22300,1,-1	IF SENSE	F3B05550
01031	1	77777	1	01123	TXI M22200,1,-1	GO TO (A),1	F3B05560
01032	1	77777	1	01072	TXI M22100,1,-1	GO TO N (A)	F3B05570
					TIFGO ENTRY A GO TO A		F3B05580
01033	0	50000	0	02345	M22020 CLA TIFFN	CURRENT TIFGO FMLA NO.	F3B05590
01034	0	60100	0	02362	PAT1 STO M2CW		F3B05600
01035	0	50000	0	02301	PAT2 CLA M2CON+5	+10, INCREMENT	F3B05610
01036	0	60100	0	02360	PAT3 STO CLOC	FOR LOC WD OF 1ST INSTR OF TRASTO BLOCK	F3B05620
01037	0	07400	4	01477	M22022 TSX M22750,4	TRASTO LEV.NO. SEARCH	F3B05630
01040	0	07400	4	01560	TSX M22800,4	CUR.TIFGO LEV.NO. IN TRASTO	F3B05640
01041	-0	53400	2	02346	LXD CTRAST,2	CUR.TIFGO NO. NOT IN TRASTO	F3B05650
01042	1	77774	2	01043	M22025 TXI M22025+1,2,-4	UPDATE TRASTO ENTRY POINT	F3B05660
01043	0	07400	4	01456	TSX M22700,4	TRASTO FMLA NO SEARCH	F3B05670
01044	0	02000	0	01052	TRA M22035	TIFGO FMLA NO. NOT AGAIN FOUND	F3B05680
01045	0	50000	0	02333	CLA ADDCO	TIFGO FMLA NO AGAIN FOUND	F3B05690
01046	0	10000	0	01037	TZE M22022	TIFGO ENTRY NOT YET FOUND IN TRASTO	F3B05700
01047	0	50000	0	02274	CLA M2CON	TIFGO ENTRY ALREADY FOUND IN TRASTO	F3B05710
01050	0	60100	0	02362	STO M2CW	ADJUST LOCATION WORD TO ZERO	F3B05720
01051	0	02000	0	01037	TRA M22022	BACK TO LEVEL NO. SEARCH	F3B05730
01052	0	50000	0	02333	M22035 CLA ADDCO	NO. OF TIMES TIFGO ENTRY APPEARS IN TRASTO	F3B05740
01053	0	10000	0	01056	TZE M22040	TIFGO ENTRY NEVER FOUND IN TRASTO	F3B05750
01054	0	50000	0	02311	CLA M2CON+13	TIFGO ENTRY FOUND IN TRASTO	F3B05760
01055	0	60100	0	02362	STO M2CW	+170000000000 , NEW. LOC. WORD	F3B05770
01056	0	50000	1	05473	M22040 CLA TIFGO+1,1	TIFGO BETA	F3B05780
01057	0	76700	0	00022	ALS 18	PUT INTO DECREMENT	F3B05790
01060	0	60100	0	02364	STO M2CW+2	3RD WORD	F3B05800
01061	0	07400	4	02177	TSX CIT200,4	COMPILE FINAL INSTRUCTION	F3B05810
01062	0	00000	0	02362	HTR M2CW	17(8)	F3B05820
01063	0	00000	0	02315	HTR M2ABC	TRA	F3B05830
01064	0	00000	0	02364	HTR M2CW+2	BETA	F3B05840
01065	0	00000	0	02274	HTR M2CON	ZERO	F3B05850
01066	-0	53400	2	02347	LXD ETRAL,2	UPDATE TRALEV ENTRY POINT	F3B05860
01067	1	77777	2	01070	M22050 TXI M22050+1,2,-1		F3B05870
01070	-0	63400	2	02347	SXD ETRAL,2	UPDATE TRALEV TO NEXT ENTRY	F3B05880
01071	1	77776	1	00503	TXI M21000,1,-2	BACK TO TEST AGAIN.	F3B05890
					TIFGO ENTRY A GO TO N (A)		F3B05900
01072	0	50000	0	02345	M22100 CLA TIFFN	CURRENT TIFGO ALPHA	F3B05910

01073	0	76000	0	00002	CHS	MAKE LOCATION WORD POSITIVE	F3805920
01074	0	60100	0	02362	PAT5 STO M2CW		F3805930
01075	0	50000	0	02301	PAT6 CLA M2CON+5	+10	F3805940
01076	0	60100	0	02360	PAT7 STO CLOC	SAVE INCREMENT	F3805950
01077	0	07400	4	01477	M22105 TSX M22750,4	TRASTO LEV NO SEARCH	F3805960
01100	0	07400	4	01560	TSX M22800,4	CUR TIFGO LEV NO IN TRASTO	F3805970
01101	-0	53400	2	02346	LXD CTRAST,2	CUR TIFGO LEV NO NOT IN TRASTO	F3805980
01102	1	77774	2	01103	M22110 TXI M22110+1,2,-4	UPDATE TRASTO ENTRY POINT	F3805990
01103	0	07400	4	01456	TSX M22700,4	TRASTO FMLA NO SEARCH	F3806000
01104	0	02000	0	01112	TRA M22120	TIFGO FMLA NO NOT AGAIN FOUND	F3806010
01105	0	50000	0	02333	CLA ADDCO	TIFGO FMLA NO AGAIN FOUND	F3806020
01106	0	10000	0	01077	TZE M22105	TIFGO ENTRY NOT YET FOUND IN TRASTO	F3806030
01107	0	50000	0	02274	CLA M2CON	TIFGO ENTRY ALREADY FOUND IN TRASTO	F3806040
01110	0	60100	0	02362	STO M2CW	ADJUST LOCATION WROD TO ZERO	F3806050
01111	0	02000	0	01077	TRA M22105	BACK TO LEVEL NO SEARCH	F3806060
01112	-0	53400	2	02347	M22120 LXD ETRAL,2	UPDATE TRALEV ENTRY POINT	F3806070
01113	0	50000	2	03211	CLA TRALEV,2	BEGINNING OF TRALEV BLOCK	F3806080
01114	-0	12000	0	01121	TMI M22130		F3806090
01115	-0	75400	2	00000	PXD 0,2	TEST IF END OF TRALEV	F3806100
01116	0	40200	0	03210	SUB TRALEV-1		F3806110
01117	0	10000	0	01121	TZE M22130		F3806120
01120	1	77777	2	01113	TXI M22120+1,2,-1	SPACE OVER TO NEXT ENTRY	F3806130
01121	-0	63400	2	02347	M22130 SXD ETRAL,2		F3806140
01122	1	77777	1	00503	TXI M21000,1,-1		F3806150
					TIFGO ENTRY A GO TO (A),1		F3806160
01123	0	50000	1	05472	M22200 CLA TIFGO,1	COMPUTE N+1 (CTRAD1- CTRAD2+1)	F3806170
01124	0	73400	2	00000	PAX 0,2	STORE IN M2CW+3	F3806180
01125	-0	63400	2	02332	SXD LOX,2	STORE COMPILING FIRST	F3806190
01126	-0	32000	0	02305	ANA M2CON+9	INSTRUCTION	F3806200
01127	0	40000	0	02303	ADD M2CON+7		F3806210
01130	0	40200	0	02332	SUB LOX		F3806220
01131	0	60100	0	02365	STO M2CW+3		F3806230
01132	0	76000	0	00006	COM	COMPUTE 2S COMP OF	F3806240
01133	0	40000	0	02304	ADD M2CON+8	N-1 IN ORDER TO	F3806250
01134	0	62200	0	01140	STD M22220	OBTAIN TRALEV ENTRY	F3806260
01135	-0	53400	2	02347	LXD ETRAL,2	POINT FOR LAST ADDRESS	F3806270
01136	-0	63400	2	01165	SXD M22240+1,2		F3806280
01137	-0	63400	2	01231	SXD M22275+1,2		F3806290
01140	1	00000	2	01141	M22220 TXI M22220+1,2	TRALEV ENTRY PT. FOR LAST ADDRESS	F3806300
01141	-0	63400	2	02357	SXD NETRAL,2	CURRENT TRALEV ENTRY PT.	F3806310
01142	-0	63400	2	02347	SXD ETRAL,2	COMPILE FIRST INSTRUCTION	F3806320
01143	0	07400	4	02177	TSX CIT200,4	ALPHA	F3806330
01144	0	00000	0	02345	HTR TIFFN	ZERO	F3806340
01145	0	00000	0	02274	HTR M2CON	ALPHA	F3806350
01146	0	00000	0	02345	HTR TIFFN	NO OF ADDRESS IN TRAD	F3806360
01147	0	00000	0	02365	HTR M2CW+3	TRASTO LEVEL NO SEARCH	F3806370
01150	0	07400	4	01477	M22225 TSX M22750,4	COR TIFGO LEV NO IN TRASTO	F3806380
01151	0	07400	4	02013	TSX M23000,4	CUR TIFGO LEV NO NOT IN TRASTO	F3806390
01152	-0	53400	2	02346	LXD CTRAST,2	UPDATE TRASTO ENTRY POINT	F3806400
01153	1	77774	2	01154	M22230 TXI M22230+1,2,-4	TRASTO FMLA NO SEARCH	F3806410
01154	0	07400	4	01456	TSX M22700,4	TIFGO FMLA NO NOT AGAIN FOUND	F3806420
01155	0	07400	4	02077	TSX M23050,4	TIFGO FMLA NO AGAIN FOUND	F3806430
01156	0	02000	0	01150	TRA M22225	RESET CTRAST CELL FOR	F3806440
01157	0	50000	0	02356	M22235 CLA ETRAST		F3806450

D

01160 0 60100 0 02346  
 01161 -0 53400 2 02347  
 01162 1 00001 2 01163  
 01163 -0 63400 2 02347  
 01164 -3 00000 2 01166 M22240  
 01165 -3 00000 2 01150  
 01166 0 50000 0 02333  
 01167 0 10000 0 01232  
 01170 -0 53400 2 02357  
 01171 -0 63400 2 02347  
 01172 0 50000 0 02301  
 01173 0 60100 0 02360  
 01174 0 60100 0 02362  
 01175 0 50000 0 02345 M22245  
 01176 -0 60200 0 02362  
 01177 0 50000 0 02274  
 01200 0 60100 0 02333  
 01201 0 07400 4 01477 M22250  
 01202 0 07400 4 01560  
 01203 -0 53400 2 02346  
 01204 1 77774 2 01205 M22255  
 01205 0 07400 4 01456  
 01206 0 02000 0 01214  
 01207 0 50000 0 02333  
 01210 0 10000 0 01201  
 01211 0 50000 0 02274  
 01212 0 60100 0 02362  
 01213 0 02000 0 01201  
 01214 0 50000 0 02333 M22265  
 01215 0 10000 0 01223  
 01216 0 07400 4 02163  
 01217 0 50000 0 02360  
 01220 0 40000 0 02301  
 01221 0 60100 0 02360  
 01222 0 60100 0 02362  
 01223 0 50000 0 02356 M22270  
 01224 0 60100 0 02346  
 01225 -0 53400 2 02347  
 01226 1 00001 2 01227  
 01227 -0 63400 2 02347  
 01230 -3 00000 2 01232 M22275  
 01231 -3 00000 2 01175  
 01232 -0 53400 2 02357  
 01233 1 77777 2 01234  
 01234 -0 63400 2 02347 M22280  
 01235 1 77777 1 00503  
 01236 -0 53400 2 02347 M22300  
 01237 -0 63400 2 01165  
 01240 -0 63400 2 01231  
 01241 1 77777 2 01242 M22305  
 01242 -0 63400 2 02357  
 01243 -0 63400 2 02347  
 01244 0 07400 4 02177

STO CTRAST  
 LXD ETRAL,2  
 TXI M22240-1,2,1  
 SXD ETRAL,2  
 TXL M22240+2,2,0  
 TXL M22225,2  
 CLA ADDCO  
 TZE M22275+2  
 LXD NETRAL,2  
 SXD ETRAL,2  
 CLA M2CON+5  
 STO CLOC  
 STO M2CW  
 CLA TIFFN  
 ORS M2CW  
 CLA M2CON  
 STO ADDCO  
 TSX M22750,4  
 TSX M22800,4  
 LXD CTRAST,2  
 TXI M22255+1,2,-4  
 TSX M22700,4  
 TRA M22265  
 CLA ADDCO  
 TZE M22250  
 CLA M2CON  
 STO M2CW  
 TRA M22250  
 CLA ADDCO  
 TZE M22270  
 TSX M23075,4  
 CLA CLOC  
 ADD M2CON+5  
 STO CLOC  
 STO M2CW  
 CLA ETRAST  
 STO CTRAST  
 LXD ETRAL,2  
 TXI M22275-1,2,1  
 SXD ETRAL,2  
 TXL M22275+2,2,0  
 TXL M22245,2  
 LXD NETRAL,2  
 TXI M22280,2,-1  
 SXD ETRAL,2  
 TXI M21000,1,-1  
 TIFGO ENTRY AN  
 LXD ETRAL,2  
 SXD M22240+1,2  
 SXD M22275+1,2  
 TXI M22305+1,2,-1  
 SXD NETRAL,2  
 SXD ETRAL,2  
 TSX CIT200,4

TRASTO LEV NO SEARCH  
 UPDATE TRALEV ENTRY POINT

TIFGO ENTRY NEVER FOUND IN TRASTO  
 RESET ETRAL FOR SECOND  
 PASS THROUGH TRASTO  
 INITIALIZE LOCATION  
 COUNTER  
 SET LOCATION WORD FOR FIRST  
 TRASTO INSERT

INITIALIZE ADDCO FOR  
 TRASTO LEV.NO.SEARCH AND TRANSFER TO PERFORM  
 TRASTO LEV.NO.SEARCH  
 CUR TIFGO LEV NO FOUND  
 CUR TIFGO NO.NOT FOUND  
 UPDATE TRASTO ENTRY POINT  
 TRASTO FMLA NO.SEARCH  
 TIFGO FMLA NO.NOT AGAIN FOUND  
 TIFGO FMLA NO.AGAIN FOUND  
 CUR TIFGO ADD NOT YET FOUND IN TRASTO  
 CURTIFGO ADD ALREADY FOUND IN TRASTO  
 ADJUST LOCATION WORD

CUR. TIFGO NEVER FOUND IN TRASTO  
 CUR. TIFGO ADD. FOUND IN TRASTO  
 UPDATE LOCATION WORD FOR NEXT ENTRY  
 BLOCK OF TRASTO UNSERTS

RESET CTRAST FOR TRASTO  
 LEV. NO. SEARCH  
 UPDATE TRALEV ENTRY POINT

UPDATE TRALEV ENTRY POINT  
 FOR NEXT TIFGO ENTRY

BACK TO NEXT TIFGO  
 IF SENSE  
 UPDATE TRALEV

COMPILE INFO. INSTRUCTION

F3B06460  
 F3B06470  
 F3B06480  
 F3B06490  
 F3B06500  
 F3B06510  
 F3B06520  
 F3B06530  
 F3B06540  
 F3B06550  
 F3B06560  
 F3B06570  
 F3B06580  
 F3B06590  
 F3B06600  
 F3B06610  
 F3B06620  
 F3B06630  
 F3B06640  
 F3B06650  
 F3B06660  
 F3B06670  
 F3B06680  
 F3B06690  
 F3B06700  
 F3B06710  
 F3B06720  
 F3B06730  
 F3B06740  
 F3B06750  
 F3B06760  
 F3B06770  
 F3B06780  
 F3B06790  
 F3B06800  
 F3B06810  
 F3B06820  
 F3B06830  
 F3B06840  
 F3B06850  
 F3B06860  
 F3B06870  
 F3B06880  
 F3B06890  
 F3B06900  
 F3B06910  
 F3B06920  
 F3B06930  
 F3B06940  
 F3B06950  
 F3B06960  
 F3B06970  
 F3B06980  
 F3B06990

01245	0	00000	0	02345	HTR	TIFFN	ALPHA	F3B07000
01246	0	00000	0	02274	HTR	M2CON	ZERO	F3B07010
01247	0	00000	0	02274	HTR	M2CON	ZERO	F3B07020
01250	0	00000	0	02274	HTR	M2CON	ZERO	F3B07030
01251	0	02000	0	01150	TRA	M22225	TRASTO LEVEL NO. SEARCH	F3B07040
						TIFFO ENTRY AN	IF DIV CK	F3B07050
01252	-0	53400	2	02347	M22400	LXD	ETRAL,2	F3B07060
01253	1	77776	2	01254	TXI	M22400+2,2,-2	UPDATE TRALEV	F3B07070
01254	-0	63400	2	01277	SXD	M22425+1,2		F3B07080
01255	-0	63400	2	01342	SXD	M22465+1,2		F3B07090
01256	0	07400	4	02177	TSX	CIT200,4	COMPILE INFO. INSTRUCTION	F3B07100
01257	0	00000	0	02345	HTR	TIFFN	ALPHA	F3B07110
01260	0	00000	0	02274	HTR	M2CON	ZERO	F3B07120
01261	0	00000	0	02274	HTR	M2CON	ZERO	F3B07130
01262	0	00000	0	02274	HTR	M2CON	ZERO	F3B07140
01263	0	07400	4	01477	M22410	TSX	M22750,4	F3B07150
01264	0	07400	4	02013	TSX	M23000,4	TRASTO LEVEL NO SEARCH	F3B07160
01265	-0	53400	2	02346	LXD	CTRAST,2	CUR. TIFGO LEVEL NO. IN TRASTO	F3B07170
01266	1	77774	2	01267	M22415	TXI	M22415+1,2,-4	F3B07180
01267	0	07400	4	01456	TSX	M22700,4	UPDATE TRASTO ENTRY POINT	F3B07190
01270	0	07400	4	02077	TSX	M23050,4	TRASTO FMLA. NO. SEARCH	F3B07200
01271	0	02000	0	01263	TRA	M22410	TIFGO FMLA. NO NOT AGAIN FOUND	F3B07210
01272	0	50000	0	02356	M22420	CLA	ETRAST	F3B07220
01273	0	60100	0	02346	STO	CTRAST	TIFGO FMLA. NO. AGAIN FOUND	F3B07230
01274	-0	53400	2	02347	LXD	ETRAL,2	RESET CTRAST CELL FOR	F3B07240
01275	1	77777	2	01276	TXI	M22425,2,-1	TRASTO LEVEL NO. SEARCH	F3B07250
01276	-0	63400	2	02347	M22425	SXD	ETRAL,2	F3B07260
01277	3	00000	2	01263	TXH	M22410,2	UPDATE TRALEV ENTRY POINT	F3B07270
01300	0	50000	0	02333	CLA	ADDCO		F3B07280
01301	0	10000	0	01343	TZE	M22465+2		F3B07290
01302	1	00002	2	01303	TXI	M22430,2,2	TIFGO ENTRY NEVER FOUND IN TRASTO	F3B07300
01303	-0	63400	2	02347	M22430	SXD	ETRAL,2	F3B07310
01304	0	50000	0	02301	CLA	M2CON+5	RESET ETRAL FOR SECOND	F3B07320
01305	0	60100	0	02360	STO	CLOC	PASS THROUGH TREASTO	F3B07330
01306	0	60100	0	02362	STO	M2CW	INITIALIZE LOCATION	F3B07340
01307	0	50000	0	02345	M22435	CLA	TIFFN	F3B07350
01310	-0	60200	0	02362	ORS	M2CW	FIRST TRASTO INSERT	F3B07360
01311	0	50000	0	02274	CLA	M2CON		F3B07370
01312	0	60100	0	02333	STO	ADDCO	INITIALIZE ADDCO FOR	F3B07380
01313	0	07400	4	01477	M22440	TSX	TRASTO LEV NO SEARCH	F3B07390
01314	0	07400	4	01560	TSX	M22800,4	TRASTO LEV NO SEARCH	F3B07400
01315	-0	53400	2	02346	LXD	CTRAST,2	CUR TIFGO LEV NO FOUND IN TRASTO	F3B07410
01316	1	77774	2	01317	M22445	TXI	CUR TIFGO LEV NO NOT FOUND IN TRASTO	F3B07420
01317	0	07400	4	01456	TSX	M22700,4	UPDATE TRASTO ENTRY POINT	F3B07430
01320	0	02000	0	01326	TRA	M22455	TRASTO FMLA NO SEARCH	F3B07440
01321	0	50000	0	02333	CLA	ADDCO	TIFGO FMLA NO NOT AGAIN FOUND	F3B07450
01322	0	10000	0	01313	TZE	M22440	TIFGO FMLA NO AGAIN FOUND	F3B07460
01323	0	50000	0	02274	CLA	M2CON	CUR TIFGO ADD NOT YET FOUND IN TRASTO	F3B07470
01324	0	60100	0	02362	STO	M2CW	CUR TIFGO ENTRY ALREADY FOUND IN TRASF	F3B07480
01325	0	02000	0	01313	TRA	M22440	ADJUST LOCATION WORD	F3B07490
01326	0	50000	0	02333	M22455	CLA	TRASTO LEV. NO, SEARCH	F3B07500
01327	0	10000	0	01335	TZE	M22460		F3B07510
01330	0	07400	4	02163	TSX	M23075,4	CUR TIFGO ADD NEVER FOUND IN TRASTO	F3B07520
01331	0	50000	0	02360	CLA	CLOC	CUR TIFGO ADD FOUND IN TRASTO	F3B07530
							UPDATE LOCATION WORD FOR	

01332	0	40000	0	02301	ADD M2CON+5	NEXT BLOCK OF TRASTO INSERTS	F3B07540
01333	0	60100	0	02360	STO CLOC		F3B07550
01334	0	60100	0	02362	STO M2CW		F3B07560
01335	0	50000	0	02356	M22460 CLA ETRAST	RESET CTRAST FOR TRASTO LEV	F3B07570
01336	0	60100	0	02346	STO CTRAST	NO SEARCH	F3B07580
01337	-0	53400	2	02347	LXD ETRAL,2	UPDATE TRALEV ENTRY	F3B07590
01340	1	77777	2	01341	TXI M22465,2,-1	POINT	F3B07600
01341	-0	63400	2	02347	M22465 SXD ETRAL,2		F3B07610
01342	3	00000	2	01307	TXH M22435,2	TEST END OF TRALEV ENTRIES .	F3B07620
01343	1	77777	1	00503	TXI M21000,1,-1	NEXT TIFGO.	F3B07630
					TIFGO ENTRY AN	IF OVERFLOW	F3B07640
01344	-0	53400	2	02347	M22500 LXD ETRAL,2	INITIALIZE AND RECORD END OF	F3B07650
01345	1	77776	2	01346	TXI M22500+2,2,-2	TRALEV ENTRY	F3B07660
01346	-0	63400	2	01277	SXD M22425+1,2		F3B07670
01347	-0	63400	2	01342	SXD M22465+1,2		F3B07680
01350	0	07400	4	01477	M22505 TSX M22750,4	TRASTO LEV NO SEARCH	F3B07690
01351	0	07400	4	02027	COR12 TSX M23025,4		F3B07700
01352	-0	53400	2	02346	LXD CTRAST,2	CUR TIFGO LEV NO NOT IN TRASTO	F3B07710
01353	1	77774	2	01354	M22510 TXI M22510+1,2,-4	UPDATE TRASTO ENTRY POINT	F3B07720
01354	0	07400	4	01456	TSX M22700,4	TRASTO FMLA NO SEARCH	F3B07730
01355	0	07400	4	02113	TSX M23060,4	TRASTO FMLA NO NOT AGAIN FOUND	F3B07740
01356	0	02000	0	01350	TRA M22505	TRASTO FMLA NO AGAIN FOUND	F3B07750
01357	0	02000	0	01272	TRA M22420	CONTINUE AS IN DVCH.	F3B07760
					TIFGO ENTRY AN	IF (E)	F3B07770
01360	-0	53400	2	02347	M22600 LXD ETRAL,2	PERMUTE WDS. OF THIS TRALEV ENTRY	F3B07780
01361	0	50000	2	03211	CLA TRALEV,2	SO THAT	F3B07790
01362	0	60100	0	02361	STO SAVE	A1, A2, A3, BECOMES A2, A3, A1	F3B07800
01363	0	50000	2	03212	CLA TRALEV+1,2	A2 FIRST	F3B07810
01364	0	60100	2	03211	STO TRALEV,2		F3B07820
01365	0	50000	2	03213	CLA TRALEV+2,2	A3 SECOND	F3B07830
01366	0	60100	2	03212	STO TRALEV+1,2		F3B07840
01367	0	50000	0	02361	CLA SAVE	A1 THIRD	F3B07850
01370	0	60100	2	03213	STO TRALEV+2,2		F3B07860
01371	1	77775	2	01372	M22610 TXI M22610+1,2,-3		F3B07870
01372	-0	63400	2	01342	SXD M22465+1,2		F3B07880
01373	0	07400	4	02177	TSX CIT200,4	COMPILE INFO INSTRUCTION	F3B07890
01374	0	00000	0	02345	HTR TIFFN	ALPHA	F3B07900
01375	0	00000	0	02274	HTR M2CON	ZERO	F3B07910
01376	0	00000	0	02274	HTR M2CON	ZERO	F3B07920
01377	0	00000	0	02274	HTR M2CON	ZERO	F3B07930
01400	0	07400	4	01477	M22620 TSX M22750,4	TRASTO LEV NO SEARCH	F3B07940
01401	0	07400	4	02043	TSX M23035,4	CUR TIFGO LEV NO FOUND IN TRASTO	F3B07950
01402	-0	53400	2	02346	LXD CTRAST,2	CUR TIFGO LEV NO NOT FOUND IN TRASTO	F3B07960
01403	1	77774	2	01404	M22625 TXI M22625+1,2,-4	UPDATE TRASTO ENTRY POINT	F3B07970
01404	0	07400	4	01456	TSX M22700,4	TRASTO FMLA NO SEARCH	F3B07980
01405	0	07400	4	02127	TSX M23065,4	TRASTO FMLA NO NOT AGAIN FOUND	F3B07990
01406	0	02000	0	01400	TRA M22620	TRASTO FMLA NO AGAIN FOUND.	F3B08000
01407	0	50000	0	02356	M22630 CLA ETRAST	RESET CTRAST CELL FOR	F3B08010
01410	0	60100	0	02346	STO CTRAST	TRASTO LEV NO SEARCH	F3B08020
01411	-0	53400	2	02347	LXD ETRAL,2	UPDATE TRALEV	F3B08030
01412	1	77777	2	01413	TXI M22635,2,-1	ENTRY POINT	F3B08040
01413	-0	63400	2	02347	M22635 SXD ETRAL,2		F3B08050
01414	0	07400	4	01477	M22640 TSX M22750,4	TRASTO LEVEL NO SEARCH	F3B08060
01415	0	07400	4	02062	TSX M23040,4	CUR TIFGO LEV NO FOUND IN TRASTO	F3B08070

01416 -0 53400 4 02346 LXD CTRAST,4  
 01417 1 77774 2 01420 TXI M22645,2,-4  
 01420 0 07400 4 01456 M22645 TSX M22700,4  
 01421 0 07400 4 02147 TSX M23070,4  
 01422 0 02000 0 01414 TRA M22640  
 01423 0 50000 0 02356 M22650 CLA ETRAST  
 01424 0 60100 0 02346 STO CTRAST  
 01425 -0 53400 2 02347 LXD ETRAL,2  
 01426 1 77777 2 01427 TXI M22655,2,-1  
 01427 -0 63400 2 02347 M22655 SXD ETRAL,2  
 01430 0 50000 0 02333 CLA ADDCO  
 01431 0 40000 0 02301 ADD M2CON+5  
 01432 0 60100 0 02333 STO ADDCO  
 01433 0 07400 4 01477 M22660 TSX M22750,4  
 01434 0 07400 4 02013 TSX M23000,4  
 01435 -0 53400 2 02346 LXD CTRAST,2  
 01436 1 77774 2 01437 TXI M22665,2,-4  
 01437 0 07400 4 01456 M22665 TSX M22700,4  
 01440 0 07400 4 02077 TSX M23050,4  
 01441 0 02000 0 01433 TRA M22660  
 01442 -0 53400 2 02347 LXD ETRAL,2  
 01443 1 77777 2 01444 TXI M22670,2,-1  
 01444 -0 63400 2 02347 M22670 SXD ETRAL,2  
 01445 0 50000 0 02333 CLA ADDCO  
 01446 0 40200 0 02301 SUB M2CON+5  
 01447 0 10000 0 00535 COR13 TZE M21030-1  
 01450 1 00003 2 01451 TXI M22675,2,3  
 01451 -0 63400 2 02347 M22675 SXD ETRAL,2  
 01452 0 50000 0 02356 CLA ETRAST  
 01453 0 60100 0 02346 STO CTRAST  
 01454 0 50000 0 02302 CLA M2CON+6  
 01455 1 77777 1 01305 TXI M22435-2,1,-1

M2 CLOSED SUBROUTINES  
 TRASTO FMLA NO SEARCH

01456 -0 75400 2 00000 M22700 PXD 0,2  
 01457 0 40200 0 02367 SUB TRASTO-1  
 01460 0 10000 4 00001 TZE 1,4  
 01461 0 50000 2 02370 CLA TRASTO,2  
 01462 -0 32000 0 02306 ANA M2CON+10  
 01463 0 76700 0 00022 ALS 18  
 01464 0 34000 0 02345 CAS TIFFN  
 01465 0 02000 0 01470 TRA M22710  
 01466 0 02000 0 01475 TRA M22715  
 01467 1 77774 2 01456 TXI M22700,2,-4  
 01470 0 50000 2 02370 M22710 CLA TRASTO,2  
 01471 -0 32000 0 02305 ANA M2CON+9  
 01472 0 34000 0 02345 CAS TIFFN  
 01473 1 77774 2 01456 TXI M22700,2,-4  
 01474 1 77774 2 01456 TXI M22700,2,-4  
 01475 -0 63400 2 02346 M22715 SXD CTRAST,2  
 01476 0 02000 4 00002 TRA 2,4

TRASTO LEVEL NO

01477 -0 63400 4 02331 M22750 SXD CBOX,4  
 01500 -0 53400 2 02347 LXD ETRAL,2

CUR TIFGO LEV NO NOT FOUND IN TRASTO F3B08080  
 UPDATE TRASTO ENTRY POINT F3B08090  
 TRASTO FMLA NO SEARCH F3B08100  
 TIFGO FMLA NO NOT AGAIN FOUND F3B08110  
 TIFGO FMLA NO AGAIN FOUND F3B08120  
 RESET CTRAST CELL FOR F3B08130  
 TRASTO LEV NO SEARCH F3B08140

UPDATE TRALEV  
 ENTRY POINT F3B08150  
 SET ADDCO FOR F3B08160  
 TRA ADDRESS F3B08170  
 F3B08180  
 F3B08190  
 F3B08200

TRASTO LEV NO SEARCH F3B08210  
 CUR TIFGO LEV NO FOUND IN TRASTO F3B08220  
 CUR TIFGO LEV NO NOT FOUND IN TRASTO F3B08230  
 UPDATE TRASTO ENTRY POINT F3B08240  
 TRASTO FMLA NO SEARCH F3B08250  
 TIFGO FMLA NO NOT AGAIN FOUND F3B08260  
 TIFO FMLA NO AGAIN FOUND F3B08270

UPDATE TRALEV ENTRY POINT F3B08280  
 FOR NEXT TIFGO ENTRY F3B08290  
 F3B08300  
 F3B08310  
 F3B08320  
 F3B08330

RESET ETRAL FOR F3B08340  
 SECOND PASS THROUGH TRASTO F3B08350  
 RESET CTRAST FOR SECOND F3B08360  
 PASS THROUGH TRASTO F3B08370  
 INITIALIZE LOCATION F3B08380  
 F3B08390

PLACE COUNT OF TRALEV ENTRY IN AC. F3B08400  
 TRASTO WORD COUNT F3B08410  
 EQUAL. TR BACK F3B08420  
 TRASTO ENTRY F3B08430  
 SAVE DECREMENT F3B08440  
 SHIFT B TO DECREMENT PORTION F3B08450  
 CURRENT TIFGO FMLA. NO. F3B08460  
 TRASTO GREATER THAN TIFGO F3B08470  
 TRASTO EQUAL TO TIFGO FMLA NO F3B08480  
 TRAS TO LESS THAN TIFGO, BACK TO BRING NEXT F3B08490  
 TRASTO ENTRY F3B08500  
 MASK OUT ADDRESS F3B08510  
 INTERNAL FORMULA NO. ALPHA F3B08520  
 TRASTO F3B08530  
 F3B08540  
 F3B08550  
 F3B08560  
 F3B08570

TRASTO NOT FOUND

SEARCH F3B08580  
 TR COUNT STORED FOR LINKAGE F3B08590  
 CURRENT TRALEV ENTRY PT. IN IR 2 F3B08600  
 F3B08610

01501	0	50000	2	03211	CLA TRALEV,2
01502	0	62100	0	02350	STA LEVNO
01503	-0	53400	2	02346	LXD CTRAST,2
01504	0	50000	0	02340	CLA TWOL
01505	0	10000	0	01527	TZE M22770
01506	0	50000	0	02346	CLA CTRAST
01507	-0	10000	0	01513	TNZ M22760
01510	0	50000	0	02337	CLA ONEL
01511	0	10000	0	01550	TZE M22787
01512	0	02000	0	01527	TRA M22770
01513	0	50000	0	02337	M22760 CLA ONEL
01514	-0	10000	0	01524	TNZ M22767
01515	0	40000	0	02340	M22762 ADD TWOL
01516	-0	73400	4	00000	PDX 0,4
01517	-0	75400	4	00000	PXD 0,4
01520	0	34000	0	02346	CAS CTRAST
01521	0	02000	0	01527	TRA M22770
01522	0	02000	0	01527	TRA M22770
01523	0	02000	0	01550	TRA M22787
01524	0	34000	0	02346	M22767 CAS CTRAST
01525	0	02000	0	01515	TRA M22762
01526	0	02000	0	01515	TRA M22762
01527	0	50000	2	02371	M22770 CLA TRASTO+1,2
01530	-0	32000	0	02306	ANA M2CON+10
01531	0	34000	0	02350	CAS LEVNO
01532	0	02000	0	01535	TRA M22777
01533	0	02000	0	01556	TRA M22795
01534	0	02000	0	01556	TRA M22795
01535	0	50000	2	02371	M22777 CLA TRASTO+1,2
01536	-0	32000	0	02305	ANA M2CON+9
01537	0	77100	0	00022	ARS 18
01540	0	34000	0	02350	CAS LEVNO
01541	0	02000	0	01556	TRA M22795
01542	0	02000	0	01543	TRA M22783
01543	0	50000	0	02333	M22783 CLA ADDCO
01544	0	40000	0	02301	ADD M2CON+5
01545	0	60100	0	02333	STO ADDCO
01546	-0	53400	4	02331	LXD CBOX,4
01547	0	02000	4	00001	TRA 1,4
01550	0	50000	2	02372	M22787 CLA TRASTO+2,2
01551	-0	32000	0	02305	ANA M2CON+9
01552	0	77100	0	00022	ARS 18
01553	0	34000	0	02350	CAS LEVNO
01554	0	02000	0	01543	TRA M22783
01555	0	02000	0	01556	TRA M22795
01556	-0	53400	4	02331	M22795 LXD CBOX,4
01557	0	02000	4	00002	TRA 2,4
01560	-0	63400	4	02331	M22800 SXD CBOX,4
01561	-0	53400	2	02274	LXD M2CON,2
01562	0	50000	0	02346	CLA CTRAST
01563	-0	10000	0	01567	TNZ M22810
01564	0	50000	2	02337	M22805 CLA ONEL,2
01565	-0	10000	2	01600	TNZ M22819,2

LOAD TRALEV WORD  
 CURRENT LEVEL NO.  
 CURRENT TRASTO ENTRY PT.  
 TWOS COMPLIMENT OF NO OF WDS. IN DEC. FIELD  
 TYPE 2  
 CURRENT TRASTO ENTRY PT.

TYPE 1

TEST TYPE 1

NO. OF TYPE 2

COMPARE

LEVEL NOS.  
 SAVE ADDRESS, TEST UPPER LEVEL  
 COMPARE TO CURRENT TIFGO LEVEL NO.  
 LESS THAN

LEVEL NOS.  
 SAVE DECREMENT  
 PLACE IN ADDRESS  
 CURRENT TIFGO LEVEL NO.  
 EXIT, NOT FOUND  
 EQUAL TO OR GREATER THAN  
 NO. OF TIMES TIFGO APPEARS  
 ADD 10(8) INCREMENT  
 RESTORE  
 RESTORE LINKAGE, LEVEL NO.  
 FOUND.  
 TAGS, WORD 3, TYPE 2 LEVEL NO.  
 SAVE DECREMENT  
 SHIFT TO ADDRESS  
 COMPARE LEVEL NO.

NOT FOUND, BACK TO MAIN ROUTINE  
 INDEXING INSTRUCTION COMPILER  
 SAVE COUNT IN 4 FOR LINKAGE  
 PLACE ZERO IN IR 2  
 CURRENT TRASTO ENTRY POINT  
 LENGTH OF TYPE 1 ENTRY ETC.  
 ENTRIES EXIST

F3B08620  
 F3B08630  
 F3B08640  
 F3B08650  
 F3B08660  
 F3B08670  
 F3B08680  
 F3B08690  
 F3B08700  
 F3B08710  
 F3B08720  
 F3B08730  
 F3B08740  
 F3B08750  
 F3B08760  
 F3B08770  
 F3B08780  
 F3B08790  
 F3B08800  
 F3B08810  
 F3B08820  
 F3B08830  
 F3B08840  
 F3B08850  
 F3B08860  
 F3B08870  
 F3B08880  
 F3B08890  
 F3B08900  
 F3B08910  
 F3B08920  
 F3B08930  
 F3B08940  
 F3B08950  
 F3B08960  
 F3B08970  
 F3B08980  
 F3B08990  
 F3B09000  
 F3B09010  
 F3B09020  
 F3B09030  
 F3B09040  
 F3B09050  
 F3B09060  
 F3B09070  
 F3B09080  
 F3B09090  
 F3B09100  
 F3B09110  
 F3B09120  
 F3B09130  
 F3B09140  
 F3B09150



01566	1	77777	2	01564		TXI M22805,2,-1	GET NEXT TYPE ENTRY	F3B09160
01567	0	50000	0	02274	M22810	CLA M2CON	ZERO IN ACC.	F3B09170
01570	0	40000	2	02337		ADD ONEL,2	LENGTH OF TYPE 1 ENTRY ETC	F3B09180
01571	-0	73400	4	00000		PDX 0,4	PLACE THIS RESULT INIR 4	F3B09190
01572	-0	75400	4	00000		PXD 0,4	PUT BACK IN ACC., CLEARING ADDRESS	F3B09200
01573	0	10000	0	01577		TZE M22815		F3B09210
01574	0	40200	0	02346		SUB CTRAST	CURRENT TRASTO ENTRY POINT	F3B09220
01575	-0	12000	2	01600		TMI M22819,2	PROPER TYPE	F3B09230
01576	0	40000	0	02346		ADD CTRAST		F3B09240
01577	1	77777	2	01570	M22815	TXI M22810+1,2,-1	SORT ACCORDING TO TYPE	F3B09250
01600	0	02000	0	01606	M22819	TRA M22825	TYPE I INSERTS	F3B09260
01601	0	02000	0	01633		TRA M22850	TYPE II INSERTS	F3B09270
01602	0	02000	0	01654		TRA M22875	TYPE III INSERTS	F3B09280
01603	0	02000	0	01677		TRA M22900	TYPE IV INSERTS	F3B09290
01604	0	02000	0	01732		TRA M22925	TYPE V INSERTS	F3B09300
01605	0	02000	0	01752		TRA M22950	TYPE VI INSERTS	F3B09310
01606	-0	53400	2	02346	M22825	LXD CTRAST,2	TYPE I INSERTS	F3B09320
01607	0	50000	2	02372		CLA TRASTO+2,2	3RD WRD OF TRASTO ENTRY	F3B09330
01610	0	76500	0	00022		LRS 18	ADDRESS PORTION IN MQ	F3B09340
01611	0	60100	0	02365		STO M2CW+3	DECREMENT, T1, IN 4TH WORD	F3B09350
01612	-0	50000	0	02310		CAL M2CON+12	+140000000000	F3B09360
01613	0	60200	0	02364		SLW M2CW+2	SYMBOLIC ADDRESS	F3B09370
01614	0	76300	0	00022		LLS 18	PUT BACK T2 IN ACC	F3B09380
01615	-0	60200	0	02364		ORS M2CW+2	PUT IN ADDRESS PART OF 3RD WD	F3B09390
01616	0	07400	4	02177		TSX CIT200,4	COMPILE INSTRUCTIONS	F3B09400
01617	0	00000	0	02362		HTR M2CW	INT. FMLA NO. IF ANY	F3B09410
01620	0	00000	0	02320		HTR M2ABC+3	SXD	F3B09420
01621	0	00000	0	02364		HTR M2CW+2	+140000000000, T2	F3B09430
01622	0	00000	0	02365		HTR M2CW+3	T1	F3B09440
01623	0	60100	0	02365		STO M2CW+3	PUT T2 IN 4TH WRD.	F3B09450
01624	0	07400	4	02177		TSX CIT200,4	COMPILE	F3B09460
01625	0	00000	0	02274		HTR M2CON	ZERO	F3B09470
01626	0	00000	0	02321		HTR M2ABC+4	LXD	F3B09480
01627	0	00000	0	02364		HTR M2CW+2	14(8),T2	F3B09490
01630	0	00000	0	02365		HTR M2CW+3	T2	F3B09500
01631	-0	53400	4	02331	M22848	LXD CBOX,4	RESTORE LINKAGE	F3B09510
01632	0	02000	4	00001		TRA 1,4	BACK TO MAIN ROUTINE	F3B09520
01633	-0	53400	2	02346	M22850	LXD CTRAST,2	TYPE II INSERTS	F3B09530
01634	-0	50000	2	02371		CAL TRASTO+1,2	2ND WORD OF TRASTO ENTRY	F3B09540
01635	0	60200	0	02364		SLW M2CW+2	SAVE IN 3RD WORD FOR COMPILER	F3B09550
01636	-0	50000	2	02372		CAL TRASTO+2,2	3RD WD OF ENTRY	F3B09560
01637	-0	32000	0	02306		ANA M2CON+10	SAVE ADDRESS	F3B09570
01640	0	60200	0	02365		SLW M2CW+3	STORE IN 4TH WD	F3B09580
01641	0	07400	4	02177		TSX CIT200,4	COMPILER	F3B09590
01642	0	00000	0	02362		HTR M2CW	INTERNAL FMLA NO., IF ANY	F3B09600
01643	0	00000	0	02322		HTR M2ABC+5	PXD	F3B09610
01644	0	00000	0	02274		HTR M2CON	ZERO	F3B09620
01645	0	00000	0	02365		HTR M2CW+3	ZERO,T1	F3B09630
01646	0	07400	4	02177		TSX CIT200,4	COMPILER	F3B09640
01647	0	00000	0	02274		HTR M2CON	ZERO	F3B09650
01650	0	00000	0	02323		HTR M2ABC+6	STO	F3B09660
01651	0	00000	0	02364		HTR M2CW+2	S(BCD)	F3B09670
01652	0	00000	0	02274		HTR M2CON	ZERO	F3B09680
01653	0	02000	0	01631		TRA M22848	TO RESTORE LINKAGE	F3B09690

01654	-0	53400	2	02346	M22875	LXD	CTRAST,2
01655	0	50000	2	02372		CLA	TRASTO+2,2
01656	0	76500	0	00022		LRS	18
01657	0	40000	0	02303		ADD	M2CON+7
01660	0	60100	0	02365		STO	M2CW+3
01661	0	76000	0	00000		CLM	
01662	0	76300	0	00022		LLS	18
01663	0	76000	0	00006		COM	
01664	0	40000	0	02275		ADD	M2CON+1
01665	-0	32000	0	02306		ANA	M2CON+10
01666	0	60100	0	02363		STO	M2CW+1
01667	-0	50000	0	02324		CAL	M2ABC+7
01670	-0	60200	0	02363		ORS	M2CW+1
01671	0	07400	4	02177		TSX	CIT200,4
01672	0	00000	0	02362		HTR	M2CW
01673	0	00000	0	02363		HTR	M2CW+1
01674	0	00000	0	02311		HTR	M2CON+13
01675	0	00000	0	02365		HTR	M2CW+3
01676	0	02000	0	01631		TRA	M22848
01677	-0	53400	2	02346	M22900	LXD	CTRAST,2
01700	0	50000	2	02372		CLA	TRASTO+2,2
01701	0	76000	0	00002		CHS	
01702	0	76500	0	00022		LRS	18
01703	0	76100	0	00000	COR14	NOP	
01704	0	60100	0	02365	PAT9	STO	M2CW+3
01705	0	50000	0	02360	PAT10	CLA	CLOC
01706	0	40000	0	02301	PAT11	ADD	M2CON+5
01707	0	60100	0	02360	PAT12	STO	CLOC
01710	0	60100	0	02364	PAT13	STO	M2CW+2
01711	0	50000	0	02345	PAT14	CLA	TRSWC
01712	-0	60200	0	02364	PAT15	ORS	M2CW+2
01713	0	07400	4	02177	RET3	TSX	CIT200,4
01714	0	00000	0	02362		HTR	M2CW
01715	0	00000	0	02320		HTR	M2ABC+3
01716	0	00000	0	02364	COR16	HTR	M2CW+2
01717	0	00000	0	02365		HTR	M2CW+3
01720	0	50000	2	02372		CLA	TRASTO+2,2
01721	-0	32000	0	02306		ANA	M2CON+10
01722	0	40000	0	02303		ADD	M2CON+7
01723	0	60100	0	02365		STO	M2CW+3
01724	0	07400	4	02177		TSX	CIT200,4
01725	0	00000	0	02364	COR17	HTR	M2CW+2
01726	0	00000	0	02325		HTR	M2ABC+8
01727	0	00000	0	02311		HTR	M2CON+13
01730	0	00000	0	02365		HTR	M2CW+3
01731	0	02000	0	01631		TRA	M22848
01732	-0	53400	2	02346	M22925	LXD	CTRAST,2
01733	0	50000	2	02372		CLA	TRASTO+2,2
01734	0	76000	0	00002		CHS	
01735	0	76500	0	00022		LRS	18
01736	0	40000	0	02303		ADD	M2CON+7
01737	0	60100	0	02365		STO	M2CW+3
01740	-0	50000	0	02324		CAL	M2ABC+7
01741	0	77100	0	00022		ARS	18

TYPE III INSERTS  
 3RD WRD OF TRASTO ENTRY  
 SHIFT N TO MG  
 1 TO ADDRESS FOR SIGN  
 4TH WORD  
 CLEAR ACC  
 PUT N BACK IN ACC.  
 COMPLIMENT  
 ADD ONE, 2 S COMPLIMENT  
 SAVE ADDRESS  
 2ND WORD OF COMPILER  
 TXI  
 IN DECREMENT  
 COMPILER

TXI, N(COMP)  
 +170000000000  
 1,  
 RESTORE LINKAGE

TYPE IV INSERT  
 3RD WRD OF TRASTO ENTRY  
 CHANGE SIGN TO PLUS  
 T1, TO ADDRESS. T2 TO M2

INCREMENT FOR LOC WD OF 1ST ENTRY  
 ADD 10  
 RESTORE WITH NEW INCREMENT  
 ALS 0 PLACE IN 3RD WD OF COMPILER  
 WORD COUNT  
 SAVE IN DECREMENT OF 3RD WD  
 COMPILER

SXD  
 WORD COUNT, INCREMENTED LOC WD  
 T1  
 3RD WORD OF TRASTO ENTRY  
 SAVE ADDRESS  
 1 TO ADDRESS FOR C  
 4TH WORD  
 COMPILER

LOC WORD  
 TIX

17(8)

1T2

BACK TO RESTORE LINKAGE

TYPE V INSERTS  
 3RD WORD  
 CHANGE SIGN TO PLUS  
 SHIFT T TO ADDRESS, N TO MQ  
 1 FOR SIGN  
 4TH WRD. FOR COMPILER  
 TXI  
 SHIFT TO ADDRESS PORTION

F3B09700  
 F3B09710  
 F3B09720  
 F3B09730  
 F3B09740  
 F3B09750  
 F3B09760  
 F3B09770  
 F3B09780  
 F3B09790  
 F3B09800  
 F3B09810  
 F3B09820  
 F3B09830  
 F3B09840  
 F3B09850  
 F3B09860  
 F3B09870  
 F3B09880  
 F3B09890  
 F3B09900  
 F3B09910  
 F3B09920  
 F3B09930  
 F3B09940  
 F3B09950  
 F3B09960  
 F3B09970  
 F3B09980  
 F3B09990  
 F3B10000  
 F3B10010  
 F3B10020  
 F3B10030  
 F3B10040  
 F3B10050  
 F3B10060  
 F3B10070  
 F3B10080  
 F3B10090  
 F3B10100  
 F3B10110  
 F3B10120  
 F3B10130  
 F3B10140  
 F3B10150  
 F3B10160  
 F3B10170  
 F3B10180  
 F3B10190  
 F3B10200  
 F3B10210  
 F3B10220  
 F3B10230

01742	0	76300	0	00022	LLS 18	CONTENTS OF MQ	F3B10240
01743	0	60200	0	02363	SLW M2CW+1	1 TXI, N	F3B10250
01744	0	07400	4	02177	TSX CIT200,4	COMPILER	F3B10260
01745	0	00000	0	02362	HTR M2CW		F3B10270
01746	0	00000	0	02363	HTR M2CW+1	TXI, N	F3B10280
01747	0	00000	0	02311	HTR M2CON+13	17(8)	F3B10290
01750	0	00000	0	02365	HTR M2CW+3	1,T	F3B10300
01751	0	02000	0	01631	TRA M22848	RESTORE LINKAGE	F3B10310
01752	-0	53400	2	02346	M22950 LXN CTRAST,2	TYPE VI INSERTS	F3B10320
01753	0	50000	2	02372	CLA TRASTO+2,2	3RD WORD OF TRASTO ENTRY	F3B10330
01754	0	76000	0	00002	CHS		F3B10340
01755	-0	50100	0	02312	ORA M2CON+14	+1200000000000	F3B10350
01756	0	60100	0	02364	STO M2CW+2	3RD WD OF COMPILER	F3B10360
01757	0	50000	0	02277	CLA M2CON+3	+0000000000004	F3B10370
01760	-0	50100	0	02334	COR18 ORA COR28	+000004	F3B10380
01761	0	60100	0	02366	STO M2CW+4	5TH WORD	F3B10390
01762	0	07400	4	02177	TSX CIT200,4	COMPILER	F3B10400
01763	0	00000	0	02362	HTR M2CW		F3B10410
01764	0	00000	0	02320	HTR M2ABC+3	SXD	F3B10420
01765	0	00000	0	02313	HTR M2CON+15	6000000000000	F3B10430
01766	0	00000	0	02366	HTR M2CW+4	4,4	F3B10440
01767	0	07400	4	02177	TSX CIT200,4	COMPILER	F3B10450
01770	0	00000	0	02274	HTR M2CON	ZERO	F3B10460
01771	0	00000	0	02326	HTR M2ABC+9	TSX	F3B10470
01772	0	00000	0	02364	HTR M2CW+2	12(8),T	F3B10480
01773	0	00000	0	02277	HTR M2CON+3	ZERO,4	F3B10490
01774	0	50200	2	02372	CLS TRASTO+2,2	3RD WORD	F3B10500
01775	0	60100	0	02365	STO M2CW+3	4TH WD OF COMPILER	F3B10510
01776	-0	50100	0	02310	ORA M2CON+12	14 IN DECREMENT	F3B10520
01777	0	60100	0	02364	STO M2CW+2	3RD WD, SAVE T	F3B10530
02000	0	07400	4	02177	TSX CIT200,4	COMPILER	F3B10540
02001	0	00000	0	02274	HTR M2CON	ZERO	F3B10550
02002	0	00000	0	02321	HTR M2ABC+4	LXP	F3B10560
02003	0	00000	0	02364	HTR M2CW+2	14(8),T	F3B10570
02004	0	00000	0	02365	HTR M2CW+3	ZERO,T	F3B10580
02005	0	07400	4	02177	TSX CIT200,4	COMPILER	F3B10590
02006	0	00000	0	02274	HTR M2CON	ZERO	F3B10600
02007	0	00000	0	02327	HTR M2ABC+10	LXD	F3B10610
02010	0	00000	0	02313	HTR M2CON+15	6(8)	F3B10620
02011	0	00000	0	02366	HTR M2CW+4	5 4	F3B10630
02012	0	02000	0	01631	TRA M22848	BACK TO RESTORE LINKAGE	F3B10640
					INITIAL TRANSFER COMPILERS FOR TIFGO ENTRIES		F3B10650
					WHEN A TRASTO ENTRY IS ASSOCIATED WITH		F3B10660
					THE TRANSFER ADDRESS		F3B10670
					TRANSFER WITH LOCATION 0		F3B10680
02013	-0	63400	4	02270	M23000 SXN ADD6+3,4	SAVE CONTENTS OF IR4 FOR LINKAGE	F3B10690
02014	0	50000	0	02345	CLA TIFN	CURRENT TIF60 FMLA. NO. IN DECR.	F3B10700
02015	0	60100	0	02364	STO M2CW+2	3RD WORD	F3B10710
02016	0	50000	0	02333	CLA ADDCO	8 TIMES NO. OF TIMES ADDRESS IS IN TRASTO	F3B10720
02017	-0	60200	0	02364	ORS M2CW+2	PLACE IN ADDRESS	F3B10730
02020	0	07400	4	02177	TSX CIT200,4	COMPILER	F3B10740
02021	0	00000	0	02274	HTR M2CON	ZERO	F3B10750
02022	0	00000	0	02315	HTR M2ABC	TRA	F3B10760
02023	0	00000	0	02364	HTR M2CW+2	TIFEN, ADDCO	F3B10770

02024	0	00000	0	02274		HTR M2CON	ZERO	F3B10780
02025	0	02000	0	02271	COR20	TRA PAT17		F3B10790
02026	0	02000	4	00006		TRA 6,4	BACK TO MAIN ROUTINE	F3B10800
							INFO INSTRUCTION FOR IF OVERFLOW	F3B10810
02027	-0	63400	4	02270	M23025	SXD ADD6+3,4	SAVE LINKAGE	F3B10820
02030	0	50000	0	02345		CLA TIFFN	TIFGO FMLA NO.	F3B10830
02031	0	60100	0	02364		STO M2CW+2	3RD WD.	F3B10840
02032	0	50000	0	02333		CLA ADDCO	COUNT	F3B10850
02033	-0	60200	0	02364		ORS M2CW+2	ADDRESS	F3B10860
02034	0	07400	4	02177		TSX CIT200,4	COMPILER	F3B10870
02035	0	00000	0	02345		HTR TIFFN	TIFGO FMLA NO.	F3B10880
02036	0	00000	0	02274		HTR M2CON	ZERO	F3B10890
02037	0	00000	0	02364		HTR M2CW+2	TIFFN, ADDCO	F3B10900
02040	0	00000	0	02274		HTR M2CON		F3B10910
02041	0	02000	0	02271	COR22	TRA PAT17		F3B10920
02042	0	02000	4	00006		TRA 6,4		F3B10930
							TRANSFER ON ZERO WITH LOCATION FMLA NO + 8	F3B10940
02043	-0	63400	4	02270	M23035	SXD ADD6+3,4		F3B10950
02044	0	50000	0	02345		CLA TIFFN		F3B10960
02045	0	60100	0	02362		STO M2CW	INT.FMLA NO	F3B10970
02046	0	60100	0	02364		STO M2CW+2	3RD WD	F3B10980
02047	0	50000	0	02333		CLA ADDCO	COUNT	F3B10990
02050	-0	60200	0	02362		ORS M2CW	ADDRESS OF FIRST WD.	F3B11000
02051	0	40000	0	02301		ADD M2CON+5	ADD 10	F3B11010
02052	-0	60200	0	02364		ORS M2CW+2	ADD 10 TO COUNT	F3B11020
02053	0	07400	4	02177		TSX CIT200,4	COMPILER	F3B11030
02054	0	00000	0	02362		HTR M2CW	INT FMLANO, ADDCO	F3B11040
02055	0	00000	0	02316		HTR M2ABC+1	TZE	F3B11050
02056	0	00000	0	02364		HTR M2CW+2	INT. FMLA NO., ADDCO+10	F3B11060
02057	0	00000	0	02274		HTR M2CON	ZERO	F3B11070
02060	0	02000	0	02271	COR24	TRA PAT17		F3B11080
02061	0	02000	4	00006		TRA 6,4		F3B11090
							TRANSFER ON PLUS WITH LOCATION 0	F3B11100
02062	-0	63400	4	02270	M23040	SXD ADD6+3,4	SAVE LINKAGE	F3B11110
02063	0	50000	0	02345		CLA TIFFN	TIFGO INT. FMLA NO.	F3B11120
02064	0	60100	0	02364		STO M2CW+2	3RD WD	F3B11130
02065	0	50000	0	02333		CLA ADDCO		F3B11140
02066	0	40000	0	02301		ADD M2CON+5	10 TO ADDCO	F3B11150
02067	-0	60200	0	02364		ORS M2CW+2	IN ADDRESS OF 3RD WD	F3B11160
02070	0	07400	4	02177		TSX CIT200,4	COMPILER	F3B11170
02071	0	00000	0	02274		HTR M2CON	ZERO	F3B11180
02072	0	00000	0	02317		HTR M2ABC+2	TPL	F3B11190
02073	0	00000	0	02364		HTR M2CW+2	TIFFN, ADDCO+10	F3B11200
02074	0	00000	0	02274		HTR M2CON	ZERO	F3B11210
02075	0	02000	0	02271	COR26	TRA PAT17		F3B11220
02076	0	02000	4	00006		TRA 6,4		F3B11230
							INITIAL TRANSFER COMPILERS FOR TIFGO	F3B11240
							ENTRIES WHEN THERE IS NO TRASTO ENTRY	F3B11250
							FOR THE TRANSFER ADDRESS	F3B11260
							TRANSFER WITH LOCATION 0	F3B11270
02077	-0	63400	4	02331	M23050	SXD CBOX,4	SAVE LINKAGE	F3B11280
02100	-0	53400	2	02347		LXD ETRAL,2	IN IRZ CURRENT TRALEV ENTRY PT.	F3B11290
02101	0	50000	2	03211		CLA TRALEV,2	CURRENT TRALEV ENTRY	F3B11300
02102	-0	32000	0	02305		ANA M2CON+9	SAVE DECREMENT, OF TRAVEV ENTRY	F3B11310

02103	0	60100	0	02364	STO M2CW+2	SRD WORD	F3B11320
02104	0	07400	4	02177	TSX CIT200,4	COMPILER	F3B11330
02105	0	00000	0	02274	HTR M2CON	ZERO	F3B11340
02106	0	00000	0	02315	HTR M2ABC	TRA	F3B11350
02107	0	00000	0	02364	HTR M2CW+2	AI	F3B11360
02110	0	00000	0	02274	HTR M2CON	ZERO	F3B11370
02111	-0	53400	4	02331	LXD CBOX,4	RESTORE LINKAGE	F3B11380
02112	0	02000	4	00002	TRA 2,4		F3B11390
					INFO INSTRUCTION FOR IF OVERFLOW		F3B11400
02113	-0	63400	4	02331	M23060 SXD CBOX,4	SAVE LINKAGE	F3B11410
02114	-0	53400	2	02347	LXD ETRAL,2	CURRENT TRALEV ENTRY DT.	F3B11420
02115	0	50000	2	03211	CLA TRALEV,2	TRALEV ENTRY	F3B11430
02116	-0	32000	0	02305	ANA M2CON+9	SAVE DECREMENT	F3B11440
02117	0	60100	0	02364	STO M2CW+2	3RD WD	F3B11450
02120	0	07400	4	02177	TSX CIT200,4	COMPILER	F3B11460
02121	0	00000	0	02345	HTR TIFFN	TIFGO INT. FMLA NO	F3B11470
02122	0	00000	0	02274	HTR M2CON	ZERO	F3B11480
02123	0	00000	0	02364	HTR M2CW+2	AI	F3B11490
02124	0	00000	0	02274	HTR M2CON	ZERO	F3B11500
02125	-0	53400	4	02331	LXD CBOX,4	RESTORE LINKAGE	F3B11510
02126	0	02000	4	00002	TRA 2,4		F3B11520
					TRANSFER ON ZERO WITH LOCATION FMLA NO + 8		F3B11530
02127	-0	63400	4	02331	M23065 SXD CBOX,4	SAVE LINKAGE	F3B11540
02130	-0	53400	2	02347	LXD ETRAL,2	CURRENT TRALEV ENTRY PT	F3B11550
02131	0	50000	2	03211	CLA TRALEV,2	SAVE DECREMENT OF TRALEV	F3B11560
02132	-0	32000	0	02305	ANA M2CON+9	ENTRY	F3B11570
02133	0	60100	0	02364	STO M2CW+2		F3B11580
02134	0	50000	0	02345	CLA TIFFN	TIFGO FMLA NO.	F3B11590
02135	0	60100	0	02362	STO M2CW		F3B11600
02136	0	50000	0	02301	CLA M2CON+5	10 (8)	F3B11610
02137	-0	60200	0	02362	ORS M2CW	ADD TO ADDRESS	F3B11620
02140	0	07400	4	02177	TSX CIT200,4		F3B11630
02141	0	00000	0	02362	HTR M2CW	TIFFN+10(8)	F3B11640
02142	0	00000	0	02316	HTR M2ABC+1	TZE	F3B11650
02143	0	00000	0	02364	HTR M2CW+2	AI	F3B11660
02144	0	00000	0	02274	HTR M2CON	ZERO	F3B11670
02145	-0	53400	4	02331	LXD CBOX,4		F3B11680
02146	0	02000	4	00002	TRA 2,4		F3B11690
					TRANSFER ON PLUS WITH LOCATION 0		F3B11700
02147	-0	63400	4	02331	M23070 SXD CBOX,4	SAVE LINKAGE	F3B11710
02150	-0	53400	2	02347	LXD ETRAL,2		F3B11720
02151	0	50000	2	03211	CLA TRALEV,2		F3B11730
02152	-0	32000	0	02305	ANA M2CON+9	DECREMENT OF TRALEV ENTRY	F3B11740
02153	0	60100	0	02364	STO M2CW+2		F3B11750
02154	0	07400	4	02177	TSX CIT200,4		F3B11760
02155	0	00000	0	02274	HTR M2CON	ZERO	F3B11770
02156	0	00000	0	02317	HTR M2ABC+2	TPL	F3B11780
02157	0	00000	0	02364	HTR M2CW+2	AI	F3B11790
02160	0	00000	0	02274	HTR M2CON	ZERO	F3B11800
02161	-0	53400	4	02331	LXD CBOX,4		F3B11810
02162	0	02000	4	00002	TRA 2,4		F3B11820
					FINAL TRANSFER COMPILER FOR TIFGO		F3B11830
					ENTRIES WHEN A TRASTO ENTRY IS ASSOCIATED		F3B11840
					WITH THE TRANSFER ADDRESS		F3B11850

02163	-0	63400	4	02331	M23075	SXD	CBOX,4	SAVE LINKAGE	F3B11860
02164	-0	53400	2	02347		LXD	ETRAL,2		F3B11870
02165	0	50000	2	03211		CLA	TRALEV,2		F3B11880
02166	-0	32000	0	02305		ANA	M2CON+9	SAVE DECREMENT OF TRALEV	F3B11890
02167	0	60100	0	02364		STO	M2CW+2	ENTRY	F3B11900
02170	0	07400	4	02177		TSX	CIT200,4		F3B11910
02171	0	00000	0	02311		HTR	M2CON+13	+1700000000000	F3B11920
02172	0	00000	0	02315		HTR	M2ABC	TRA	F3B11930
02173	0	00000	0	02364		HTR	M2CW+2	AI	F3B11940
02174	0	00000	0	02274		HTR	M2CON	ZERO	F3B11950
02175	-0	53400	4	02331		LXD	CBOX,4		F3B11960
02176	0	02000	4	00001		TRA	1,4		F3B11970
							M2 COMPILER CIT200		F3B11980
02177	0	60100	0	02351	CIT200	STO	E1C2	SAVE AC	F3B11990
02200	-0	60000	0	02352		STQ	E2C2	SAVE MQ	F3B12000
02201	-0	63400	1	02353		SXD	E3C2,1	SAVE IR 1	F3B12010
02202	-0	63400	2	02354		SXD	E4C2,2	SAVE IR 2	F3B12020
02203	-0	53400	2	02355		LXD	BBOX,2	2 5 COMP. OF NO. OF WDS. IN BLOCK	F3B12030
02204	3	77634	2	02217		TXH	CIT204,2,-100	COMPARE TO 100.	F3B12040
02205	-3	00000	2	02217		TXL	CIT204,2,0	LAST ENTRY	F3B12050
02206	0	76600	0	00222		WRS	146	SELECT TAPE 2	F3B12060
02207	0	50000	0	07322		CLA	TFRCO	TIFGO FILE REC. COUNT	F3B12070
02210	0	40000	0	02303		ADD	M2CON+7	ADD 1 TO DECREMENT	F3B12080
02211	0	60100	0	07322		STO	TFRCO	TIFGO FILE REC. COUNT	F3B12090
02212	0	53400	1	02274		LXA	M2CON,1	ZERO IN IR 1	F3B12100
02213	0	70000	1	06622	CIT201	CPY	CIB2,1	OUTPUT AREA	F3B12110
02214	1	77777	1	02215		TXI	CIT202,1,-1	SET COUNT FOR NEXT WORD	F3B12120
02215	1	00001	2	02216	CIT202	TXI	CIT203,2,1	SET UP COUNT OF BLOCK	F3B12130
02216	3	00001	2	02213	CIT203	TXH	CIT201,2,1	BACK TO CONTINUE WRITING	F3B12140
02217	0	53400	1	02277	CIT204	LXA	M2CON+3,1	COUNT OF 4 IN IR 1	F3B12150
02220	0	50000	0	02275		CLA	M2CON+1	1 IN ACC	F3B12160
02221	0	62100	0	02222		STA	CIT205	TO GET NEXT ENTRY	F3B12170
02222	0	50000	4	00000	CIT205	CLA	0,4	ADDRESS OF NEXT ENTRY	F3B12180
02223	0	62100	0	02224		STA	CIT206		F3B12190
02224	0	50000	0	00000	CIT206	CLA		NEXT ENTRY	F3B12200
02225	0	60100	2	06622		STO	CIB2,2	OUTPUT AREA	F3B12210
02226	0	50000	0	02222		CLA	CIT205	ADDRESS	F3B12220
02227	0	40000	0	02275		ADD	M2CON+1	ONE	F3B12230
02230	0	62100	0	02222		STA	CIT205	RESTORE ADDRESS	F3B12240
02231	1	77777	2	02232		TXI	CIT207,2,-1	DECREASE BLOCK COUNT	F3B12250
02232	2	00001	1	02222	CIT207	TXI	CIT205,1,1	GET NEXT ENTRY	F3B12260
02233	-0	63400	2	02355		SXD	BBOX,2	SAVE COUNT	F3B12270
02234	0	50000	0	02351		CLA	E1C2	RESTORE AC	F3B12280
02235	0	56000	0	02352		LDQ	E2C2	RESTORE MQ	F3B12290
02236	-0	53400	1	02353		LXD	E3C2,1	RESTORE IR 1	F3B12300
02237	-0	53400	2	02354		LXD	E4C2,2	RESTORE IR 2	F3B12310
02240	0	02000	4	00005		TRA	5,4	BACK TO MAIN ROUTINE	F3B12320
02241	-0	63400	4	02260	ADD1	SXD	ADD4,4	SAVE LINKAGE	F3B12330
02242	-0	53400	2	02346	ADD2	LXD	CTRAST,2	CURRENT TRASTO ENTRY POINT	F3B12340
02243	0	50000	2	02372		CLA	TRASTO+2,2	3RD WD OF TRASTO ENTRY	F3B12350
02244	0	12000	0	02254		TPL	ADD3	SORT OUT TYPES 1,2,3	F3B12360
02245	0	50000	2	02371		CLA	TRASTO+1,2	TYPES 4,5,6. TEST 2ND WD	F3B12370
02246	-0	12000	0	02254		TMI	ADD3	TYPE 2	F3B12380
02247	0	50000	2	02370		CLA	TRASTO,2	1ST WORD	F3B12390

	02250	-0	12000	0	02254	TMI ADD3	TYPE 3	F3B12400
	02251	0	50000	0	02333	CLA ADDC0	COUNT TIMES 8	F3B12410
	02252	0	40000	0	02301	ADD M2CON+5	ADD ONE	F3B12420
	02253	0	60100	0	02333	STO ADDC0	RESTORE NEW COUNT	F3B12430
	02254	1	77774	2	02255	ADD3 TXI ADD3+1,2,-4	SKIP TO NEXT ENTRY	F3B12440
	02255	0	07400	4	01456	TSX M22700,4	TRASTO FMLA NO SEARCH	F3B12450
	02256	0	02000	0	02263	TRA ADD5		F3B12460
	02257	0	07400	4	01477	TSX M22750,4	TRASTO LEVEL NO SEA RCH	F3B12470
D	02260	-3	00000	0	02265	ADD4 TXL ADD6,0		F3B12480
	02261	-0	53400	2	02346	LXD CTRAST,2	END	F3B12490
	02262	1	77774	2	02255	TXI ADD3+1,2,-4	BACK FOR NEXT ENTRY	F3B12500
	02263	-0	53400	4	02260	ADD5 LXD ADD4,4		F3B12510
	02264	0	02000	4	00001	TRA 1,4	BACK TO MAIN ROUTINE, VIA PAT 18	F3B12520
	02265	0	50000	0	02333	ADD6 CLA ADDC0		F3B12530
	02266	0	40200	0	02301	SUB M2CON+5		F3B12540
	02267	0	60100	0	02333	STO ADDC0		F3B12550
D	02270	-3	00000	0	02242	TXL ADD2,0		F3B12560
	02271	0	07400	4	02241	PAT17 TSX ADD1,4		F3B12570
	02272	-0	53400	4	02270	PAT18 LXD ADD6+3,4		F3B12580
	02273	0	02000	4	00006	PAT19 TRA 6,4		F3B12590
	02274	+000000000000				M2CON DEC 0,1,2,4,6,8,16,1817,3B17		F3B12600
	02275	+0000000000001						
	02276	+0000000000002						
	02277	+0000000000004						
	02300	+0000000000006						
	02301	+0000000000010						
	02302	+0000000000020						
	02303	+0000010000000						
	02304	+0000030000000						
	02305	+0777770000000				OCT 77777000000,77777,50000000000,140000000000		F3B12610
	02306	+000000077777						
	02307	+0500000000000						
	02310	+1400000000000						
	02311	+1700000000000	COR27			OCT 170000000000,120000000000,60000000000,5000000		F3B12620
	02312	+1200000000000						
	02313	+0600000000000						
	02314	+0000050000000						
	02315	635121000000	M2ABC			BCD 6TRA000TZE000TPL000SXD000LXP000PXD000		F3B12630
	02316	637125000000						
	02317	634743000000						
	02320	626724000000						
	02321	436747000000						
	02322	476724000000						
	02323	626346000000				BCD 5ST0000TXI000TIX000TSX000LXD000		F3B12640
	02324	636731000000						
	02325	633167000000						
	02326	636267000000						
	02327	436724000000						
	02330	+0000000000005	M2ECTR			DEC 5		F3B12650
		02274	L(0)			SYN M2CON		F3B12660
		02276	L(2)			SYN M2CON+2		F3B12670
		02277	L(4)			SYN M2CON+3		F3B12680
	02331	+0000000000003				L(3) DEC 3		F3B12690
		02331	CBOX			SYN L(3) IRC STORED IN DECR FIELD FOR ALL CLSD SUBROUTINE LINKAGE		F3B12700

02332	+0000000000456	0456	OCT 456		F3B12710
		02332	LOX	SYN 0456 LOWER INDEX FOR TRAD IN DECR FIELD	F3B12720
02333	0 00000 0	02370	TRSORG	TRASTO	F3B12730
		02333	ORTRST	SYN TRSORG	F3B12740
		02333	ADDCO	SYN TRSORG 8 TIMES THE NUM OF TIMES THE CURRENT ADDRESS OF THE CURRENT TIFGO ENTRY APPEARS IN TRASTO, IN ADDR FIELD	F3B12750
02334	+000004000000	COR28	OCT 4000000		F3B12760
02335	-2000000000000	MASK	OCT -2000000000000		F3B12770
02336	+0000000000460	0460	OCT 460		F3B12780
02337	0 00000 0 00000	1BOX			F3B12790
02340	0 00000 0 00000	2BOX			F3B12800
02341	0 00000 0 00000	3BOX			F3B12810
02342	0 00000 0 00000	4BOX			F3B12820
02343	0 00000 0 00000	5BOX			F3B12830
02344	0 00000 0 00000	6BOX			F3B12840
		02337	ONEL	SYN 1BOX	F3B12850
		02340	TWOL	SYN ONEL+1	F3B12860
		02341	THREEL	SYN ONEL+2	F3B12870
		02342	FOURL	SYN ONEL+3	F3B12880
		02343	FIVEL	SYN ONEL+4	F3B12890
		02344	SIXL	SYN ONEL+5	F3B12900
02345	0 00000 0 00000	TRSWC		TWOS COMPS	F3B12910
		02345	TIFFN	SYN TRSWC CURRENT TIFGO FMLA NUM IN DEC FIELD	F3B12920
02346	0 00000 0 00000	WCCHS		OF THE LENGTHS	F3B12930
		02346	CTRAST	SYN WCCHS CURRENT TRASTO ENTRY POINT IN DEC FIELD (TWOS COMP)	F3B12940
02347	0 00000 0 00000	CHS1		OF VARIOUS TYPES	F3B12950
		02347	ETRAL	SYN CHS1 CURRENT TRALEV ENTRY POINT IN DEC FIELD (TWOS COMP)	F3B12960
02350	0 00000 0 00000	CHS2		OF ENTRY BLOCKS	F3B12970
		02350	LEVNO	SYN CHS2 LEVEL NUM OF CURRENT ADDR OF CURR TIFGO ENTRY IN ADDRESS	F3B12980
02351	0 00000 0 00000	E1C2		IN TRASTO	F3B12990
02352	0 00000 0 00000	E2C2		IN DECREMENT FIELD	F3B13000
02353	0 00000 0 00000	E3C2		WORD COUNT	F3B13010
02354	0 00000 0 00000	E4C2			F3B13020
02355	0 00000 0 00000	BBOX			F3B13030
02356	0 00000 0 00000	ETRAST		TWOS COMP OF NO OF WDS ALREADY ENTERED IN BLOCK	F3B13040
02357	0 00000 0 00000	NETRAL		TRASTO ENTRY POINT FOR INITIAL TIFGO FMLA NO MATCH IN DEC	F3B13050
02360	0 00000 0 00000	CLOC		TRALEV ENTRY POINT FOR LAST ADD IN DEC FIELD (TWOS COMP)	F3B13060
				INCREMENT FOR LOC WD OF FIRST INST IN CUR BLOCK	F3B13070
				OF TRASTO INSERTIONS (IN ADDR FIELD)	F3B13080
02361	0 00000 0 00000	SAVE		TEMP STORAGE FOR FIRST TRALEV ENTRY FOR IF (E)	F3B13090
		02362	M2CW	BSS 5 FOUR WORD INSTRUCTION STORAGE	F3B13100
02367	0 00000 0 00000	CTRSWC			F3B13110
		02370	TRASTO	BSS 400	F3B13120
		02370	TYPE1	SYN TRASTO	F3B13130
		03210	TYPE2	BSS 400	F3B13140
		04030	TYPE3	BSS 400	F3B13150
		04650	TYPE4	BSS 400	F3B13160
		05470	TYPE5	BSS 400	F3B13170
		06310	TYPE6	BSS 400	F3B13180
		03211	TRALEV	SYN TYPE2+1	F3B13190
		05472	TIFGO	SYN TYPE2+1202	F3B13200
		06622	CIB2	SYN TYPE2+1802	F3B13210
		06767	TRAD	SYN CIB2+101	F3B13220
		07322	ORG	3794	F3B13230
		07322	TFRCO	BSS 1	F3B13240



07323 EASCO BSS 1 CURRENT ASCO ENTRY POINT IN DECR FIELD (TWOS COMP)  
07324 ASNO BSS 1 ONE LESS THAN CUR ASSIGN NUM IN DEC FIELD  
07325 ASCO BSS 300  
00030 END 24

F3B13250  
F3B13260  
F3B13270  
F3B13280

1  
1

REM MASTER RECORD CARD = FN060

MASTER RECORD CARD = FN060

THE FOLLOWING PROGRAM CONSTITUTES THE FINAL SECTION OF THE  
MERGE. IT MERGES THE FILE OF INSTRUCTIONS PREPARED BY THE  
FIRST SECTION WITH THE FILE PREPARED BY THE SECOND SECTION.  
IN ADDITION TO MERGING THESE TWO FILES, IT INSERTS IN THEIR  
PROPER POSITION THE INDEXING INSTRUCTIONS NECESSITATED BY THE  
APPEARANCE OF RELATIVE CONSTANTS.

		00030	ORG 24		F3B00010
			READ TSXCOM INTO HIGH SPEED STORAGE		F3B00070
		00030	0 53400 4 01202 M30000 LXA M3ECTR,4	ERORR COUNT IN IR 4	F3B00080
		00031	0 76200 0 00303 RDS 195	SELECT DRUM 3	F3B00090
		00032	0 46000 0 01147 LDA L(704)	DRUM ADDRESS	F3B00100
		00033	0 70000 0 01226 CPY TSXCOM-2	WORD COUNT OF TSXCOM TABLE	F3B00110
		00034	0 70000 0 01227 CPY TSXCOM-1	CHECK SUM OF WORD COUNT	F3B00120
		00035	0 50000 0 01226 CLA TSXCOM-2	WD. COUNT	F3B00130
		00036	0 40200 0 01227 SUB TSXCOM-1	CHECK SUM	F3B00140
		00037	0 10000 0 00042 TZE M30010	EQUAL	F3B00150
		00040	2 00000 4 00031 TIX M30000+1,4	NOT EQUAL, TRY 4 MORE TIMES	F3B00160
		00041	0 07400 4 00004 TSX 4,4	WORD COUNT NOT EQUAL TO CHECK SUM	F3B00170
		00042	0 53400 4 01202 M30010 LXA M3ECTR,4	ERROR COUNT IN IR4	F3B00180
		00043	0 50000 0 01226 CLA TSXCOM-2	WORD COUNT	F3B00190
		00044	0 77100 0 00022 ARS 18	PLACE IN ADDRESS	F3B00200
		00045	0 10000 0 00073 TZE M30050	NO TSX INSTRUCTION	F3B00210
		00046	0 73400 3 00000 PAX 0,3	PLACE WORD COUNT IN IR 1 AND 2	F3B00220
		00047	0 40000 0 01142 ADD L(1)	ADD ONE TO WORD COUNT	F3B00230
		00050	0 40000 0 00061 ADD M30025	INITIAL ADDRESS	F3B00240
		00051	0 62100 0 00055 STA M30020		F3B00250
		00052	0 76200 0 00303 RDS 195	SELECT DRUM 3	F3B00260
		00053	0 46000 0 01150 LDA L(706)	DRUM ADDRESS	F3B00270
		00054	1 00001 1 00055 TXI M30020,1,1	INCCREMENT BY 1	F3B00280
		00055	0 70000 1 00000 M30020 CPY 0,1	TSXCOM TABLE INTO STOORAGE	F3B00290
		00056	2 00001 1 00055 TIX M30020,1,1	COPY LOOP	F3B00300
		00057	0 53400 1 01141 LXA L(0),1		F3B00310
		00060	-0 50000 0 01141 CAL L(0)	ZEROS IN ACC.	F3B00320
		00061	0 36100 1 01230 M30025 ACL TSXCOM,1	COMPUTE NEW CHECK SUMS AND COMPARE	F3B00330
		00062	1 77777 1 00063 TXI M30025+2,1,-1	TO GIVEN CHECK SUM	F3B00340
		00063	2 00001 2 00061 TIX M30025,2,1		F3B00350
		00064	-0 63400 1 01227 SXD TSXCOM-1,1		F3B00360
		00065	0 60200 0 01226 SLW TSXCOM-2		F3B00370
		00066	0 50000 0 01226 CLA TSXCOM-2		F3B00380
		00067	0 40200 1 01230 SUB TSXCOM,1		F3B00390
		00070	0 10000 0 00073 TZE M30050	END. CHECK SUMS AGREE	F3B00400
		00071	2 00001 4 00043 TIX M30010+1,4,1	NOT EQUAL) BACK TO TRY 4 MORE TIMES	F3B00410
		00072	0 07400 4 00004 TSX 4,4	READ DRUM 5 MORE TIMES	F3B00420
		00073	0 02000 0 02673 M30050 TRA TSXPT1		F3B00430
			PROGRAM FOR PART 3 OF MERGE		F3B00440
		00074	0 07400 4 00654 TSX READTF,C	INITIALIZE TIFGO FILE BUFFER	F3B00450
		00075	0 07400 4 00700 TSX READFF,C	FIRST FILE BUFFERS	F3B00460
		00076	-0 76000 0 00142 MSE 98	IS TIFGO FILE USED UP	F3B00470
		00077	0 02000 0 00101 TRA C4	NO	F3B00480
		00100	0 02000 0 00150 TRA G1	YES, GO TO END OF TIFGO ROUTINE	F3B00490
		00101	0 50000 0 07322 C4 CLA 3794	TIFGO RECORD COUNT	F3B00500
		00102	0 40000 0 01151 ADD L(1D)	ADD ONE TO DECREMENT	F3B00510
					F3B00520

00103	0	60100	0	07322		STO 3794	NEW TIFGO RECORD COUNT	F3B00530
00104	0	50000	1	02362	C6	CLA FFLBUF,A	OBTAIN ALPHA FOR NEXT CIT IN 1ST FILE BUFFER	F3B00540
00105	0	62200	0	01221		STD FFLCFN		F3B00550
00106	0	50000	2	02216		CLA TFGBUF,B	OBTAIN FOR NEXT CIT AND SAVE IN	F3B00560
00107	-0	32000	0	01162		ANA MASK	TIFGO BUFFER	F3B00570
00110	0	62200	0	01213		STD TFGCFN		F3B00580
00111	0	34000	0	01221		CAS FFLCFN	COMPARE FIRST FILE TO TIFGO FILE	F3B00590
00112	0	02000	0	00234		TRA E1	ALPHA LESS THAN BETA	F3B00600
00113	0	02000	0	00337		TRA J1	ALPHA EQUALS BETA	F3B00610
							ALPHA GREATER THAN BETA	F3B00620
							COMPILE THIS TIFGO FILE INSTRUCTION	F3B00630
00114	0	53400	4	01145	C5	LXA L(4),C	SET UP FOR WORDS	F3B00640
00115	0	50000	2	02216	C2	CLA TFGBUF,B		F3B00650
00116	0	60100	4	01220		STO TFGCOM+4,C		F3B00660
00117	1	77777	2	00120		TXI C1,B,-1		F3B00670
00120	2	00001	4	00115	C1	TIX C2,C,1	COMPILER	F3B00680
00121	0	07400	4	01022		TSX CIT00,C		F3B00690
00122	0	00000	0	01214		HTR TFGCOM		F3B00700
00123	0	00000	0	01215		HTR TFGCOM+1		F3B00710
00124	0	00000	0	01216		HTR TFGCOM+2		F3B00720
00125	0	00000	0	01217		HTR TFGCOM+3		F3B00730
00126	-0	75400	2	00000		PXD 0,B	COMPARE WORD COUNT	F3B00740
00127	0	34000	0	01212		CAS TFGWC	WITH BUFFER SIZE	F3B00750
00130	0	02000	0	00137		TRA C7	WORD COUNT LESS THAN BUFFER SSIZE	F3B00760
00131	0	02000	0	00133		TRA C3	WC EQUALS BS	F3B00770
00132	0	07400	4	00004		TSX 4,4	WORD COUNT INCORRECT	F3B00780
00133	0	07400	4	00654	C3	TSX READTF,C	READ TIFGO FILE INTO BUFFER	F3B00790
00134	-0	76000	0	00142		MSE 98	IS TIFGO FILE USED UP	F3B00800
00135	0	02000	0	00137		TRA C7	NO TEST LOCATION WD OF NEXT ENTRY	F3B00810
00136	0	02000	0	00150		TRA G1	YES GO TO END OF TIFGO FILE ROUTINE	F3B00820
00137	0	50000	2	02216	C7	CLA TFGBUF,B	WORD COUNT LESS THAN BUFFER SIZE	F3B00830
00140	-0	32000	0	01164		ANA 2BIT	IS LOCATION WORD SPECIAL	F3B00840
00141	-0	10000	0	00114		TNZ C5	YES BACK TO COMPILE NEXT ENTRY	F3B00850
00142	0	50000	2	02216		CLA TFGBUF,B	NO	F3B00860
00143	-0	32000	0	01162		ANA MASK	DOES NEXT INSTRUCTION IN TIFGO FILE	F3B00870
00144	0	34000	0	01213		CAS TFGCFN	BELONG TO CURRENT COMPILED BLOCK	F3B00880
00145	0	02000	0	00104		TRA C6	NO	F3B00890
00146	0	76100	0	00000		NOP	YES	F3B00900
00147	0	02000	0	00114		TRA C5	YES	F3B00910
						END OF TIFGO FILE ROUTINE		F3B00920
00150	-0	76000	0	00141	G1	MSE 97	IS FIRST FILE USED UP. TEST SWITCH	F3B00930
00151	0	02000	0	00153		TRA G2	NO	F3B00940
00152	0	02000	0	00443		TRA OUT	YES GO TO TERMINAL ROUTINE	F3B00950
00153	0	50000	1	02362	G2	CLA FFLBUF,A	ENTRY IN FIRST FILE BUFFER	F3B00960
00154	0	62200	0	01221		STD FFLCFN	STORE INTERNAL FORMULA NO. FOR ENTRY	F3B00970
00155	0	53400	4	01145	G5	LXA L(4),C	COMPILE	F3B00980
00156	0	50000	1	02362	G4	CLA FFLBUF,A	FIRST	F3B00990
00157	0	60100	4	01226		STO FFLCOM+4,C	FILE	F3B01000
00160	1	77777	1	00161		TXI G3,A,-1	INSTRUCTION	F3B01010
00161	2	00001	4	00156	G3	TIX G4,C,1	COMPILER	F3B01020
00162	0	07400	4	01022		TSX CIT00,C		F3B01030
00163	0	00000	0	01222		HTR FFLCOM		F3B01040
00164	0	00000	0	01223		HTR FFLCOM+1		F3B01050
00165	0	00000	0	01224		HTR FFLCOM+2		F3B01060
00166	0	00000	0	01225		HTR FFLCOM+3		

00167	-0	75400	1	00000		PXD 0,A	COMPARE WORD COUNT WITH BUFFER SIZE	F3B01070
00170	0	34000	0	01220		CAS FFLWC	TO TEST IF FIRST FILE IS NOW EMPPTY	F3B01080
00171	0	02000	0	00201		TRA G8	WORD COUNT LES THAN BUFFER SIZE	F3B01090
00172	0	02000	0	00174		TRA G7	WC EQUALS BS	F3B01100
00173	0	07400	4	00004		TSX 4,4	WORD COUNT INCORRECT	F3B01110
00174	0	07400	4	00700	G7	TSX READFF,C		F3B01120
00175	-0	76000	0	00141		MSE 97	TEST IF FIRST FILE IS USED UP	F3B01130
00176	0	02000	0	00201		TRA G8	NO	F3B01140
00177	0	07400	4	00724		TSX M31000,C	YES, GO TO TSX COM TABLE SEARCH	F3B01150
00200	0	02000	0	00443		TRA OUT	TERMINAL ROUTINE	F3B01160
00201	0	50000	1	02362	G8	CLA FFLBUF,A	TEST IF NEXT FIRST FILE ENTRY	F3B01170
00202	0	10000	0	00155		TZE G5	BELONGS TOSAME BLOCK OF INSTRUCTIONS	F3B01180
00203	0	07400	4	00724		TSX M31000,C	NO	F3B01190
00204	0	50000	1	02362	G9	CLA FFLBUF,A	TEST IF NEXT FIRST FILE ALPHA	F3B01200
00205	-0	32000	0	01162		ANA MASK	IS GREATER THAN PREVIOUS ONE	F3B01210
00206	0	34000	0	01221		CAS FFLCFN	INTERNAL FORMULA NUMBER	F3B01220
00207	0	02000	0	00153		TRA G2	YES, BACK TO COMPILE NEXT INSTRUCTION	F3B01230
00210	0	76100	0	00000		NOP		F3B01240
00211	0	53400	4	01145		LXA L(4),C	NO, COMPILE THIS INSTRUCTION	F3B01250
00212	0	50000	1	02362	G10	CLA FFLBUF,A	ENTRY IN FIRST FILE BUFFER, SET	F3B01260
00213	0	60100	4	01226		STO FFLCOM+4,C	UP FOUR WORDS OF ENTRY	F3B01270
00214	1	77777	1	00215		TXI G11,A,-1	STEP UP IR COUNTS	F3B01280
00215	2	00001	4	00212	G11	TIX G10,C,1		F3B01290
00216	0	07400	4	01022		TSX C1700,C	COMPILER	F3B01300
00217	0	00000	0	01222		HTR FFLCOM		F3B01310
00220	0	00000	0	01223		HTR FFLCOM+1		F3B01320
00221	0	00000	0	01224		HTR FFLCOM+2		F3B01330
00222	0	00000	0	01225		HTR FFLCOM+3		F3B01340
00223	-0	75400	1	00000		PXD 0,A	TEST IF FIRS T FILE BUFFER	F3B01350
00224	0	34000	0	01220		CAS FFLWC	IS EMPTY	F3B01360
00225	0	02000	0	00204		TRA G9	NO	F3B01370
00226	0	02000	0	00230		TRA G12	YES	F3B01380
00227	0	07400	4	00004		TSX 4,4	WORD COUNT INCORRECT	F3B01390
00230	0	07400	4	00700	G12	TSX READFF,C	READ IN TO REFILL BUFFER	F3B01400
00231	-0	76000	0	00141		MSE 97	TEST IF AT END OF FIRST FILE	F3B01410
00232	0	02000	0	00204		TRA G9		F3B01420
00233	0	02000	0	00443		TRA OUT	TERMINAL ROUTINE	F3B01430
							ALPHA LESS THAN BETA	F3B01440
00234	0	53400	4	01145	E1	LXA L(4),C	COMPILE	F3B01450
00235	0	50000	1	02362	E3	CLA FFLBUF,A	FIRST	F3B01460
00236	0	60100	4	01226		STO FFLCOM+4,C	FILE	F3B01470
00237	1	77777	1	00240		TXI E2,A,-1	INSTRUCTION SET UP FOUR WORDS	F3B01480
00240	2	00001	4	00235	E2	TIX E3,C,1		F3B01490
00241	0	07400	4	01022		TSX C1700,C	COMPILER	F3B01500
00242	0	00000	0	01222		HTR FFLCOM		F3B01510
00243	0	00000	0	01223		HTR FFLCOM+1		F3B01520
00244	0	00000	0	01224		HTR FFLCOM+2		F3B01530
00245	0	00000	0	01225		HTR FFLCOM+3		F3B01540
00246	-0	75400	1	00000		PXD 0,A	COMPARE WORD COUNT	F3B01550
00247	0	34000	0	01220		CAS FFLWC	WITH BUFFER SIZE	F3B01560
00250	0	02000	0	00257		TRA F1	WC LESS THAN BS	F3B01570
00251	0	02000	0	00253		TRA E4	WC EQUALS BS	F3B01580
00252	0	07400	4	00004		TSX 4,4	WORD COUNT INCORRECT	F3B01590
00253	0	07400	4	00700	E4	TSX READFF,C	READ FIRST FILE	F3B01600

00254	-0	76000	0	00141		MSE 97	IS FIRST FILE USED UP	F3B01610
00255	0	02000	0	00257		TRA F1	NO	F3B01620
00256	0	02000	0	00312		TRA H1	YES	F3B01630
00257	0	50000	1	02362	F1	CLA FFLBUF,A	DOES NEXT INSTRUCTION IN	F3B01640
00260	0	10000	0	00234		TZE E1	FIRST FILE HAVE ZERO LOC WORD	F3B01650
00261	0	07400	4	00724		TSX M31000,C	TSX COM TABLE SEARCH	F3B01660
00262	0	50000	1	02362	F2	CLA FFLBUF,A	TEST KF PRESENT ALPHA IS	F3B01670
00263	-0	32000	0	01162		ANA MASK	GREATER THAN ALPHA OF	F3B01680
00264	0	34000	0	01221		CAS FFLCFN	PREVIOUS CIT	F3B01690
00265	0	02000	0	00104		TRA C6	NEXT INTERNAL FORMULA NO.	F3B01700
00266	0	76100	0	00000		NOP		F3B01710
00267	0	53400	4	01145		LXA L(4),C		F3B01720
00270	0	50000	1	02362	F3	CLA FFLBUF,A	PREPARE TO COMPILE THIS INSTRUCTION	F3B01730
00271	0	60100	4	01226		STO FFLCOM+4,C	SET UP FOUR WORDS	F3B01740
00272	1	77777	1	00273		TXI F4,A,-1		F3B01750
00273	2	00001	4	00270	F4	TIX F3,C,1		F3B01760
00274	0	07400	4	01022		TSX CIT00,C	COMPILER	F3B01770
00275	0	00000	0	01222		HTR FFLCOM		F3B01780
00276	0	00000	0	01223		HTR FFLCOM+1		F3B01790
00277	0	00000	0	01224		HTR FFLCOM+2		F3B01800
00300	0	00000	0	01225		HTR FFLCOM+3		F3B01810
00301	-0	75400	1	00000		PXD 0,A	COUNT OF POSITION OM FIRST FILE	F3B01820
00302	0	34000	0	01220		CAS FFLWC	TEST IF FIRST FILE BUFFER	F3B01830
00303	0	02000	0	00262		TRA F2	IS EMPTY	F3B01840
00304	0	02000	0	00306		TRA F5	NO, GET NEXT CIT ENTRY	F3B01850
00305	0	07400	4	00004		TSX 4,4	WORD COUNT INCORRECT	F3B01860
00306	0	07400	4	00700	F5	TSX READFF,C	READ FIRST FILE	F3B01870
00307	-0	76000	0	00141		MSE 97	TEST IF AT END OF FIRST FILE	F3B01880
00310	0	02000	0	00262		TRA F2	BACK TO GET NEXT FIRST FILE ENTRY	F3B01890
00311	0	02000	0	00313		TRA H0		F3B01900
						END OF FIRST FILE ROUTINE		F3B01910
00312	0	07400	4	00724	H1	TSX M31000,C	READ TIFGO FILE	F3B01920
00313	-0	76000	0	00142	H0	MSE 98	END OF TIFGO FILE	F3B01930
00314	0	02000	0	00316		TRA H2	NO	F3B01940
00315	0	02000	0	00443		TRA OUT	YES, TO TERMINAL ROUTINE	F3B01950
00316	0	53400	4	01145	H2	LXA L(4),C	COMPILE	F3B01960
00317	0	50000	2	02216	H4	CLA TFGBUF,B	TIFGO	F3B01970
00320	0	60100	4	01220		STO TFGCOM+4,C	FILE	F3B01980
00321	1	77777	2	00322		TXI H3,B,-1	INSTRUCTION	F3B01990
00322	2	00001	4	00317	H3	TIX H4,C,1		F3B02000
00323	0	07400	4	01022		TSX CIT00,C	COMPILER	F3B02010
00324	0	00000	0	01214		HTR TFGCOM		F3B02020
00325	0	00000	0	01215		HTR TFGCOM+1		F3B02030
00326	0	00000	0	01216		HTR TFGCOM+2		F3B02040
00327	0	00000	0	01217		HTR TFGCOM+3		F3B02050
00330	-0	75400	2	00000		PXD 0,B	COMPARE WORD COUNT	F3B02060
00331	0	34000	0	01212		CAS TFGWC	WITH BUFFER SIZE	F3B02070
00332	0	02000	0	00316		TRA H2	WC LESS THAN BS	F3B02080
00333	0	02000	0	00335		TRA H5	WC EQUALS BS	F3B02090
00334	0	07400	4	00004		TSX 4,4	WORD COUNT INCORRECT	F3B02100
00335	0	07400	4	00654	H5	TSX READTF,C	BUFFER NOW EMPTY, READ NEXT BLOCK	F3B02110
00336	0	02000	0	00313		TRA H0		F3B02120
						ALPHA EQUALS BETA		F3B02130
00337	0	50000	2	02216	J1	CLA TFGBUF,B	TEST IF LOC. WORD OF TIFGO FILE IS	F3B02140

00340	0	12000	0	00376	TPL L1	MINUS NO	F3B02150
						BETA IS MINUS , YES	F3B02160
00341	0	76000	0	00003	SSP		F3B02170
00342	0	60100	2	02216	STO TFGBUF,B	SAVE LOCATION WORD	F3B02180
00343	0	40000	0	01203	ADD L(370)	370(8) TO LOG. WORD OF FIRST FILE	F3B02190
00344	0	60100	1	02362	STO FFLBUF,A	SAVE NEW LOCATION	F3B02200
00345	0	53400	4	01145	LXA L(4),C	COMPILE	F3B02210
00346	0	50000	2	02216	CLA TFGBUF,B	TIFGO	F3B02220
00347	0	60100	4	01220	STO TFGCOM+4,C	FILE	F3B02230
00350	1	77777	2	00351	TXI J2,B,-1	INSTRUCTION	F3B02240
00351	2	00001	4	00346	TIX J3,C,1	RESET IR 4	F3B02250
00352	0	07400	4	01022	TSX CIT00,C	COMPILER	F3B02260
00353	0	00000	0	01214	HTR TFGCOM		F3B02270
00354	0	00000	0	01215	HTR TFGCOM+1		F3B02280
00355	0	00000	0	01216	HTR TFGCOM+2		F3B02290
00356	0	00000	0	01217	HTR TFGCOM+3		F3B02300
00357	-0	75400	2	00000	PXD 0,B	COMPARE WORD COUNT	F3B02310
00360	0	34000	0	01212	CAS TFGWC	WITH BUFFER SIZE	F3B02320
00361	0	02000	0	00370	TRA K3	WC LESS THAN BS	F3B02330
00362	0	02000	0	00364	TRA K1	WC EQUALS BS	F3B02340
00363	0	07400	4	00004	TSX 4,4	WORD COUNT INCORRECT	F3B02350
00364	0	07400	4	00654	TSX READTF,C		F3B02360
00365	-0	76000	0	00142	MSE 98	IS TIFGO FILE USED UP	F3B02370
00366	0	02000	0	00370	TRA K3	NO	F3B02380
00367	0	02000	0	00150	TRA G1	YES	F3B02390
00370	0	50000	2	02216	CLA TFGBUF,B	DOES NEXT INSTRUCTION IN	F3B02400
00371	-0	32000	0	01162	ANA MASK	TIFGO FILE BELONG TO CURRENT	F3B02410
00372	0	34000	0	01213	CAS TFGCFN	COMPILED BLOCK	F3B02420
00373	0	02000	0	00234	TRA E1	NO	F3B02430
00374	0	76100	0	00000	NOP	YES	F3B02440
00375	0	02000	0	00345	TRA J4	YES	F3B02450
						BETA IS PLUS	F3B02460
00376	0	53400	4	01145	LXA L(4),C	OR TIFGO FILE	F3B02470
00377	-0	50000	2	02216	CAL TFGBUF,B	WITH FIRST FILE	F3B02480
00400	-0	60200	1	02362	ORS FFLBUF,A	INSTRUCTION	F3B02490
00401	1	77777	1	00402	TXI L8,A,-1	RESET IR COUNTS	F3B02500
00402	1	77777	2	00403	TXI L3,B,-1		F3B02510
00403	2	00001	4	00377	TIX L2,C,1		F3B02520
00404	1	00004	1	00405	TXI L5,A,4		F3B02530
00405	0	53400	4	01145	LXA L(4),C	COMPILE	F3B02540
00406	0	50000	1	02362	CLA FFLBUF,A	FIRST	F3B02550
00407	0	60100	4	01226	STO FFLCOM+4,C	FILE	F3B02560
00410	1	77777	1	00411	TXI L6,A,-1	INSTRUCTION	F3B02570
00411	2	00001	4	00406	TIX L7,C,1		F3B02580
00412	0	07400	4	01022	TSX CIT00,C		F3B02590
00413	0	00000	0	01222	HTR FFLCOM		F3B02600
00414	0	00000	0	01223	HTR FFLCOM+1		F3B02610
00415	0	00000	0	01224	HTR FFLCOM+2		F3B02620
00416	0	00000	0	01225	HTR FFLCOM+3		F3B02630
00417	-0	75400	1	00000	PXD 0,A	COMPARE WORD COUNT	F3B02640
00420	0	34000	0	01220	CAS FFLWC	WITH BUFFER SIZE	F3B02650
00421	0	02000	0	00430	TRA M3	WC LESS THAN BS	F3B02660
00422	0	02000	0	00424	TRA M1	WC EQUALS BS	F3B02670
00423	0	07400	4	00004	TSX 4,4	WORD COUNT INCORRECT	F3B02680

00424	0	07400	4	00700	M1	TSX READFF,C		F3802690
00425	-0	76000	0	00141		MSE 97	IS FIRST FILE USED UP	F3802700
00426	0	02000	0	00430		TRA M3	NO	F3802710
00427	0	02000	0	00330	COR1	TRA H3+6		F3802720
00430	0	50000	1	02362	M3	CLA FFLBUF,A	DOES NEXT INSTRUCTION IN	F3802730
00431	-0	32000	0	01162		ANA MASK	FIRST FILE BELONG TO CURRENT	F3802740
00432	0	34000	0	01221		CAS FFLCFN	COMPILED BLOCK	F3802750
00433	0	02000	0	00436		TRA M4	NO	F3802760
00434	0	76100	0	00000		NOP	YES	F3802770
00435	0	02000	0	00405		TRA L5	YES	F3802780
00436	-0	75400	2	00000	M4	PXD 0,2	TEST IF TIFGO FILE BUFFER IS EMPTY	F3802790
00437	0	34000	0	01212		CAS TFGWC		F3802800
00440	0	02000	0	00137		TRA C7		F3802810
00441	0	02000	0	00133		TRA C3		F3802820
00442	0	07400	4	00004		TSX 4,4	WORD COUNT INCORRECT	F3802830
						M3 TERMINAL ROUTINE		F3802840
00443	-0	53400	1	01207	OUT	LXD BBOX,1	2S C COMPLIMENT OF NO. OF WORDS	F3802850
00444	0	50000	1	02523	PAT1	CLA CIB-3,1	ENTERED IN BLICK	F3802860
00445	0	40200	0	01172	PAT2	SUB L(TRA)	TEST IF TRA INSTRUCTION	F3802870
00446	0	10000	0	01137	PAT3	TZE RTN	YES	F3802880
00447	0	02000	0	01066	COR2	TRA PAT4	NO	F3802890
00450	-0	63400	1	00454	RET1	SXD N2,1	SAVE INDEX REG. NO. IN COMPARE INSTR.	F3802900
00451	0	53400	1	01141		LXA L(0),1	INITIALIZE IR 1 TO 1	F3802910
00452	0	70000	1	02526	N1	CPY CIB,1	REMAINDER OF	F3802920
00453	1	77777	1	00454		TXI N2,1,-1	INSTRUCTIONS IN BUFFER	F3802930
00454	3	00000	1	00452	N2	TXH N1,1	TEST IF AT END OF BUFFER	F3802940
00455	0	77000	0	00204		WEF 4	YES, WRITE END OF FILE	F3802950
00456	-0	53400	4	07322	M32000	LXD 3794,4	WRITE DO FILE C + FORTRAN FUNCTION FILE AS 2ND FILE	F3802960
00457	1	00003	4	00460		TXI M32005,4,3	POSITION TAPE 2 TO READ DO FILE C	F3802970
00460	0	76400	0	00222	M32005	BST 146		F3802980
00461	2	00001	4	00460		TIX M32005,4,1		F3802990
00462	0	76200	0	00222		RDS 146	READ DO FILE C INTO STORAGE	F3803000
00463	0	70000	0	07323		CPY 3795		F3803010
00464	0	53400	4	07323		LXA 3795,4	WORD COUNT	F3803020
00465	1	00004	4	00466		TXI BST,4,4		F3803030
00466	0	76400	0	00222	BST	BST 146	BACK TO FIRST WD.	F3803040
00467	2	00001	4	00466		TIX BST,4,1		F3803050
00470	0	76200	0	00222		RDS 146	PAST IDENTIFICATION COUNT	F3803060
00471	0	76200	0	00222		RDS 146	WORD COUNT	F3803070
00472	0	76600	0	00224		WRS 148	ZERO ON TAPE 4	F3803080
00473	0	70000	0	01141		CPY L(0)		F3803090
00474	0	50000	0	01141		CLA L(0)	RESTORE BBOX TO ZERO	F3803100
00475	0	60100	0	01207		STO BBOX		F3803110
00476	0	76000	0	00140		PSE 96	TURN OFF ALL SENSE SWITCHES	F3803120
00477	0	07400	4	00654	READ	TSX READTF,4	TREAD TIFGO FILE	F3803130
00500	-0	76000	0	00142		MSE 98	TEST IF AT END OF TIFGO FILE	F3803140
00501	0	02000	0	00503		TRA COMP	NO	F3803150
00502	0	02000	0	00522		TRA FREAD	YES	F3803160
00503	0	53400	4	01145	COMP	LXA L(4),4	4 IN IR 4	F3803170
00504	0	50000	2	02216		CLA TFGBUF,2	SET UP FOUR WORDS FOR COMPILATION	F3803180
00505	0	60100	4	01220		STO TFGCOM+4,4		F3803190
00506	1	77777	2	00507		TXI COMP1,2,-1		F3803200
00507	2	00001	4	00504	COMP1	TIX COMP+1,4,1		F3803210
00510	0	07400	4	01022		TSX CIT00,4	COMPILER	F3803220

00511	0	00000	0	01214	HTR	TFGCOM		F3B03230
00512	0	00000	0	01215	HTR	TFGCOM+1		F3B03240
00513	0	00000	0	01216	HTR	TFGCOM+2		F3B03250
00514	0	00000	0	01217	HTR	TFGCOM+3		F3B03260
00515	-0	75400	2	00000	PXD	0,2	COUNT OF TIFGO	F3B03270
00516	0	34000	0	01212	CAS	TFGWC	COMPARE TO CURRENT FMLA. NO.	F3B03280
00517	0	02000	0	00503	TRA	COMP	LESS THAN, COMPILE ENTRIES	F3B03290
00520	0	02000	0	00477	TRA	READ	EQUAL TO. READ NEXT ENTRY	F3B03300
00521	0	07400	4	00004	TSX	4,4	WORD COUNT INCORRECT	F3B03310
00522	0	07400	4	00700	FREAD	TSX READFF,4	READ FIRST FILE	F3B03320
00523	-0	76000	0	00141	MSE	97	TEST IF AT END OF FIRST FILE	F3B03330
00524	0	02000	0	00526	TRA	FCOMP	NO	F3B03340
00525	0	02000	0	00545	TRA	WRITE	YES	F3B03350
00526	0	53400	4	01145	FCOMP	LXA L(4),4	SET UP COUNT AND FOUR WORDS OF ENTRY	F3B03360
00527	0	50000	1	02362	CLA	FFLBUF,1		F3B03370
00530	0	60100	4	01226	STO	FFLCOM+4,4		F3B03380
00531	1	77777	1	00532	TXI	FCOMP1,1,-1		F3B03390
00532	2	00001	4	00527	FCOMP1	TIX FCOMP+1,4,1		F3B03400
00533	0	07400	4	01022	TSX	CIT00,4	COMPILER	F3B03410
00534	0	00000	0	01222	HTR	FFLCOM		F3B03420
00535	0	00000	0	01223	HTR	FFLCOM+1		F3B03430
00536	0	00000	0	01224	HTR	FFLCOM+2		F3B03440
00537	0	00000	0	01225	HTR	FFLCOM+3		F3B03450
00540	-0	75400	1	00000	PXD	0,1	CHECK WORD COUNT	F3B03460
00541	0	34000	0	01220	CAS	FFLWC	AND COMPARE TO FIRST FILE WORD COUNT	F3B03470
00542	0	02000	0	00526	TRA	FCOMP		F3B03480
00543	0	02000	0	00522	TRA	FREAD		F3B03490
00544	0	07400	4	00004	TSX	4,4	WORD COUNT INCORRECT	F3B03500
00545	-0	53400	1	01207	WRITE	LXD BBOX,1	TWOS COMPLIMENT OF NO. OF ENTRIES	F3B03510
00546	-3	00000	1	00555	TXL	WRITE2+1,1,0		F3B03520
00547	0	76600	0	00224	WRS	148	SELECT TAPE 4	F3B03530
00550	-0	63400	1	00554	SXD	WRITE2,1		F3B03540
00551	0	53400	1	01141	LXA	L(0),1		F3B03550
00552	0	70000	1	02526	WRITE1	CPY CIB,1	REMAINDER OF BUFFER ONTO TAPE 4	F3B03560
00553	1	77777	1	00554	TXI	WRITE2,1,-1		F3B03570
00554	3	00000	1	00552	WRITE2	TXH WRITE1,1		F3B03580
00555	0	77000	0	00224	WEF	148		F3B03590
00556	0	53400	4	07323	LXA	3795,4		F3B03600
00557	1	00003	4	00560	TXI	POS,4,3		F3B03610
00560	0	76400	0	00222	POS	BSI 146	BACKSPACE OVER DO FILE C	F3B03620
00561	2	00001	4	00560	TIX	POS,4,1		F3B03630
00562	0	76200	0	00222	M32010	RDS 146	WRITE ASCO OVER DO FILE C ON TAPE 2	F3B03640
00563	0	76200	0	00222		RDS 146		F3B03650
00564	0	76600	0	00222	WRS	146	SELECT TAPE 2	F3B03660
00565	0	70000	0	07324	CPY	3796	COPY ASCO OVER DOFILE C	F3B03670
00566	0	50000	0	07324	CLA	3796		F3B03680
00567	0	10000	0	00576	TZE	M32030-1	NO ASCO ENTRIES	F3B03690
00570	-0	73400	1	00000	PDX	0,1	NUMBER OF ASCO ENTRIES IN IR 1	F3B03700
00571	0	77100	0	00022	ARS	18	SHIFT WORD COUNT	F3B03710
00572	0	40000	0	00574	ADD	M32020	INITIAL ADDRESS	F3B03720
00573	0	62100	0	00574	STA	M32020	INITIALIZE COPY ADDRESS	F3B03730
00574	0	70000	1	07325	M32020	CPY 3797,1	ASCO TABLR	F3B03740
00575	2	00001	1	00574	TIX	M32020,1,1		F3B03750
00576	0	77000	0	00222	WEF	146	END OF FILE AFTER ASCO TABLE	F3B03760



00577	0	53400	4	01202	M32030	LXA M3ECTR,4	ERROR COUNT	F3B03770
00600	0	76200	0	00302		RDS 194	READ FIXCON INTO STORAGE	F3B03780
00601	0	70000	0	01226		CPY FIXCON-2	DRUM CHECK SUM CHCHECKING	F3B03790
00602	0	70000	0	01227		CPY FIXCON-1		F3B03800
00603	0	50000	0	01226		CLA FIXCON-2	WORD COUNT	F3B03810
00604	0	40200	0	01227		SUB FIXCON-1	CHECK SUM	F3B03820
00605	0	10000	0	00610		TZE M32040	CORRECTP	F3B03830
00606	2	00001	4	00600		TIX M32030+1,4,1	TRY 4 MORE TIMES	F3B03840
00607	0	07400	4	00004		TSX 4,4	WORD COUNT INCORRECT	F3B03850
00610	0	53400	4	01202	M32040	LXA M3ECTR,4	ERROR COUNT	F3B03860
00611	0	50000	0	01226		CLA FIXCON-2	WORD COUNT	F3B03870
00612	0	10000	0	00634		TZE M32065	NO FIXCON ENTRIES	F3B03880
00613	0	73400	3	00000		PAX 0,3	INITIALIZE WORD COUNT	F3B03890
00614	0	40000	0	00623		ADD M32055	INITIAL ADDRESS	F3B03900
00615	0	62100	0	00620		STA M32050		F3B03910
00616	0	76200	0	00302		RDS 194		F3B03920
00617	0	46000	0	01143		LDA L(2)	READ DRUM 2 FOR FIXCON TABLE	F3B03930
00620	0	70000	1	00000	M32050	CPY 0,1		F3B03940
00621	2	00001	1	00620		TIX M32050,1,1		F3B03950
00622	0	53400	1	01141		LXA L(0),1	SET IR 1 TO ZERO	F3B03960
00623	0	50000	1	01230	M32055	CLA FIXCON,1	FIRST ENTRY	F3B03970
00624	0	40200	1	01231		SUB FIXCON+1,1	CHECK SUM	F3B03980
00625	0	10000	0	00630		TZE M32060	CORRECT	F3B03990
00626	2	00001	4	00611		TIX M32040+1,4,1	TRY 4 MORE TIMES	F3B04000
00627	0	07400	4	00004		TSX 4,4	WORD COUNT INCORRECT	F3B04010
00630	1	77776	1	00631	M32060	TXI M32060+1,1,-2	SKIP OVER CHECK SUM	F3B04020
00631	2	00002	2	00623		TIX M32055,2,2	NEXT ENTRY	F3B04030
00632	-0	63400	1	00644		SXD M32070+2,1	END OF TABLE COUNT	F3B04040
00633	0	53400	2	01141		LXA L(0),2	RESET IR 2 TO ZERO	F3B04050
00634	0	76600	0	00222	M32065	WRS 146	WRITE FIXCON ON TAPE 2	F3B04060
00635	0	50000	0	01226		CLA FIXCON-2		F3B04070
00636	0	77100	0	00001		ARS 1	SET UP FIX CON ENTRIES WHITHOUT	F3B04080
00637	0	60100	0	01226		STO FIXCON-2	CHECK SUMS FOR WRITING OUT ON TAPE 2	F3B04090
00640	0	70000	0	01226		CPY FIXCON-2		F3B04100
00641	0	10000	0	00645		TZE M32075	NO FIXCON ENTRY	F3B04110
00642	0	70000	2	01230	M32070	CPY FIXCON,2		F3B04120
00643	1	77776	2	00644		TXI M32070+2,2,-2		F3B04130
00644	3	00000	2	00642		TXH M32070,2		F3B04140
00645	0	77000	0	00222	M32075	WEF 146	WRITE END OF FILE AFTER FIXCON	F3B04150
00646	0	53400	4	01145		LXA L(4),4		F3B04160
00647	0	76400	0	00222		BST 146	BACKSPACE TAPE 2 FOR SECTION 4	F3B04170
00650	2	00001	4	00647		TIX M32075+2,4,1		F3B04180
00651	0	76000	0	00140		PSE 96	TURN OFF ALL SENSE SWITCHES	F3B04190
00652	0	76200	0	00221		RTB 1		F3B04200
00653	0	02000	0	00004		TRA 4		F3B04210
						M3 CLOSED SUBROUTINES		F3B04220
						SUBROUTINE FOR READING A RECORD OF TIFGO FILE		F3B04230
00654	-0	63400	1	01211	READTF	SXD E3M3,A	SAVE LINKAGE IN IR 1	F3B04240
00655	0	53400	1	01202		LXA M3ECTR,1	ERROR COUNT	F3B04250
00656	0	76200	0	00222	M3B3	RDS 146	TAPE 2 TO READ TIFGO FILE	F3B04260
00657	0	53400	2	01141		LXA L(0),B	RESET IR2 TO ZERO	F3B04270
00660	0	70000	2	02216	M3B1	CPY TFGBUF,B	COPY TIFGO FILE FROM TAPE INTO BUFFER	F3B04280
00661	1	77777	2	00660		TXI M3B1,B,-1	SET UP COUNT	F3B04290
00662	0	02000	0	00675		TRA M3B4	EOF	F3B04300

00663	0	76600	0	00333	WRS	219	EOR) ON TAPE 3	F3B04310
00664	-0	76000	0	00012	RTT		IS TAPE CHECK INDICATOR ON	F3B04320
00665	0	02000	0	00672	TRA	M3B2	YES	F3B04330
00666	-0	63400	2	01212	SXD	TFGWC,B	NO	F3B04340
00667	0	53400	2	01141	LXA	L(0),B	RESET INDEX OF TIFGO BUFFER	F3B04350
00670	-0	53400	1	01211	LXD	E3M3,A	RESTORE INDEX OF FIRST FILE BUFFER	F3B04360
00671	0	02000	4	00001	TRA	1,C	EXIR. BACK TO MAIN ROUTINE	F3B04370
00672	0	76400	0	00222	M3B2	BST	146	F3B04380
00673	2	00001	1	00656	TIX	M3B3,A,1	ERROR ROUTINE	F3B04390
00674	0	07400	4	00004	TSX	4,4	ERROR READING TAPE 2. TIFGO FILE	F3B04400
00675	0	76000	0	00142	M3B4	PSE	98	F3B04410
00676	-0	53400	1	01211	LXD	E3M3,A	INDICATE END OF TIFGO FILE	F3B04420
00677	0	02000	4	00001	TRA	1,C	RESTORE INDEX OF FIRST FILE BUFFER	F3B04430
							TRANSFER TO MAIN ROUTINE	F3B04440
							SUBROUTINE FOR READING A RECORD OF FIRST FILE	F3B04450
00700	-0	63400	2	01210	READFF	SXD	E2M3,B	F3B04460
00701	0	53400	2	01202	LXA	M3ECTR,B	SAVE COUNT IN IR 2 FOR LINKAGE	F3B04470
00702	0	76200	0	00223	M3A3	RDS	147	F3B04480
00703	0	53400	1	01141	LXA	L(0),A	ERROR COUNT	F3B04490
00704	0	70000	1	02362	M3A1	CPY	FFLBUF,A	F3B04500
00705	1	77777	1	00704	TIX	M3A1,A,-1	READ FIRST FILE FROM TAPE 3	F3B04510
00706	0	02000	0	00721	TRA	M3A4	INITIALIZE IR1 TO ZERO	F3B04520
00707	0	76600	0	00333	WRS	219	COPY FIRST FILE INTO BUFFER	F3B04530
00710	-0	76000	0	00012	RTT		EOF	F3B04540
00711	0	02000	0	00716	TRA	M3A2	EOR DELAY 704 TO MAKE TAPE TEST	F3B04550
00712	-0	63400	1	01220	SXD	FFLWC,A	ERROR ROUTINE	F3B04560
00713	0	53400	1	01141	LXA	L(0),A	SAVE LOCATON WORD OF FIRST FILE	F3B04570
00714	-0	53400	2	01210	LXD	E2M3,B	RESET INDEX OF FIRST FILE BUFFER	F3B04580
00715	0	02000	4	00001	TRA	1,C	RESTORE INDEX OF TIFGO FILE BUFFER	F3B04590
00716	0	76400	0	00223	M3A2	BST	147	F3B04600
00717	2	00001	2	00702	TIX	M3A3,B,1	BACKSPACE TAPE 3 TO TRY AGAIN	F3B04610
00720	0	07400	4	00004	TSX	4,4	ERROR READING FIRST FILE FROM TAPE 3	F3B04620
00721	0	76000	0	00141	M3A4	PSE	97	F3B04630
00722	-0	53400	2	01210	LXD	E2M3,B	INDICATE END OF FIRST FILE	F3B04640
00723	0	02000	4	00001	TRA	1,C	RESTORE INDEX OF TIFGO FILE BUFFER	F3B04650
							TSXCOM TABLE SEARCH	F3B04660
00724	-0	63400	1	01211	M31000	SXD	E3M3,1	F3B04670
00725	-0	63400	4	01210	SXD	E2M3,4	SAVE LINKAGE OF FIRST FILE BUFFER	F3B04680
00726	0	60000	0	01065	STZ	DUP	SAVE LINKAGE FROMT TSX INSTR.	F3B04690
00727	0	50000	0	01226	M31005	CLA	TSXCOM-2	F3B04700
00730	0	40200	0	01227	SUB	TSXCOM-1	REINITIALIZE HTE INSTR.	F3B04710
00731	0	10000	0	01017	TZE	M31080	TEST WORD COUNT OF CHECK SUM	F3B04720
00732	-0	53400	1	01226	LXD	TSXCOM-2,1	CHECK SUM EQUALS WORD COUNT	F3B04730
00733	0	50000	1	01230	CLA	TSXCOM,1	WORD COUNT IN IR1	F3B04740
00734	-0	32000	0	01162	ANA	MASK	FIRST ENTRY	F3B04750
00735	0	40200	0	01221	SUB	FFLCFN	SAVE DECREMENT, INTERNAL FMLA. NO.	F3B04760
00736	-0	10000	0	01017	TNZ	M31080	FIRST FILE LOCATION NO.	F3B04770
							NOT EQUAL. NO TSXCOM ENTRY	F3B04780
							CUR FIRST FILE FMLA NO APPEARS IN TSXCOM	F3B04790
00737	-0	50000	1	01231	M31015	CAL	TSXCOM+1,1	F3B04800
00740	-0	32000	0	01165	ANA	PMASK	SAVE SIGN OF SECOND WD. OF ENTRY	F3B04810
00741	0	10000	0	01057	COR3	TZE	CIT07+6	F3B04820
00742	0	50000	1	01230	CLA	TSXCOM,1	TYPE 1 ENTRY NEGATIVE	F3B04830
00743	-0	32000	0	01163	ANA	AMASK	TYPE 2 ENTRY	F3B04840
00744	0	60100	0	01225	STO	FFLCOM+3	SAVE ADDRESS AND STORE IN	
00745	0	50000	1	01231	CLA	TSXCOM+1,1	4TH WORD OF FIRST FILE COMPILER	
							SECOND WORD OF ENTRY	

00746	0	60100	0	01224	STO FFLCOM+2	3RD. WORD OF COMPILER	F3B04850
00747	0	07400	4	01022	TSX CIT00,4	COMPILE INSTRUCTION	F3B04860
00750	0	00000	0	01141	HTR L(0)	ZERO	F3B04870
00751	0	00000	0	01156	HTR L(LXD)	LXD INSTRUCTION	F3B04880
00752	0	00000	0	01224	HTR FFLCOM+2		F3B04890
00753	0	00000	0	01225	HTR FFLCOM+3		F3B04900
00754	1	77776	1	00755	TXI M31030,1,-2	STEP UP COUNT FOR NEXT TSXCOM ENTRY	F3B04910
00755	-0	63400	1	01226	M31030 SXD TSXCOM-2,1	SAVE NEW WORD COUNT	F3B04920
00756	0	02000	0	00727	TRA M31005	BACK TO SEARCH REMAINING ENTRIES	F3B04930
00757	0	07400	4	01022	M31035 TSX CIT00,4	TYPE 1 ENTRY	F3B04940
00760	0	00000	0	01141	HTR L(0)	ZERO	F3B04950
00761	0	00000	0	01157	HTR L(SXD)	SXD	F3B04960
00762	0	00000	0	01152	HTR L(6H)	+0600000000000	F3B04970
00763	0	00000	0	01155	HTR L(5,4)	0000040000004	F3B04980
00764	0	50000	1	01231	CLA TSXCOM+1,1	SECOND WORD OF ENTRY	F3B04990
00765	-0	32000	0	01163	ANA AMASK	SAVE ADDRESS	F3B05000
00766	-0	50100	0	01153	ORA L(10H)	ADD 1200000000000	F3B05010
00767	0	60100	0	01224	STO FFLCOM+2	IN 3RD. WORD OF COMPILER	F3B05020
00770	0	07400	4	01022	TSX CIT00,4	FOR NEXT INSTRUCTION	F3B05030
00771	0	00000	0	01141	HTR L(0)	ZERO	F3B05040
00772	0	00000	0	01160	HTR L(TSX)	TSX	F3B05050
00773	0	00000	0	01224	HTR FFLCOM+2	12(8) PLUS ADDRESS	F3B05060
00774	0	00000	0	01145	HTR L(4)	+0000000000004	F3B05070
00775	0	50000	1	01231	M31050 CLA TSXCOM+1,1	SECOND WORD	F3B05080
00776	-0	32000	0	01163	ANA AMASK	SAVE ADDRESS	F3B05090
00777	0	60100	0	01225	STO FFLCOM+3	STORE IN 4TH. WORD OF COMPILED INSTR.	F3B05100
01000	-0	50100	0	01154	ORA L(12H)	ADD 12(8) AND DTOR IN 3RD.	F3B05110
01001	0	60100	0	01224	STO FFLCOM+2	WORD OF INSTRUCTION IN COMPILER	F3B05120
01002	0	07400	4	01022	TSX CIT00,4		F3B05130
01003	0	00000	0	01141	HTR L(0)	ZERO	F3B05140
01004	0	00000	0	01161	HTR L(LXP)	LXP	F3B05150
01005	0	00000	0	01224	HTR FFLCOM+2	12(8) PLUS ADDRESS	F3B05160
01006	0	00000	0	01225	HTR FFLCOM+3	ADDRESS	F3B05170
01007	1	77776	1	01010	TXI M31063-1,1,-2	RESET IR1 FOR NEXT ENTRY	F3B05180
01010	-0	63400	1	01226	SXD TSXCOM-2,1	SAVE WORD COUNT	F3B05190
01011	0	07400	4	01022	M31063 TSX CIT00,4	COMPILE INSTRUCTION	F3B05200
01012	0	00000	0	01141	HTR L(0)	ZERO0000000000	F3B05210
01013	0	00000	0	01156	HTR L(LXD)	LXD	F3B05220
01014	0	00000	0	01152	HTR L(6H)	+0600000000000	F3B05230
01015	0	00000	0	01155	HTR L(5,4)	0000040000004	F3B05240
01016	0	02000	0	00727	TRA M31005	CONTINUE TABLE SEARCH	F3B05250
01017	-0	53400	1	01211	M31080 LXD E3M3,1	END OF TSXCOM TABLE SEARCH	F3B05260
01020	-0	53400	4	01210	LXD E2M3,4	RESTORE IR COUNTS FROM LINKAGE	F3B05270
01021	0	02000	4	00001	TRA 1,4	AND GO BACK TO MAIN ROUTINE	F3B05280
					COMPILING ROUTINE,CIT00		F3B05290
01022	-0	60000	0	01204	CIT00 STQ E1C	SAVE CONTENTS OF MQ	F3B05300
01023	-0	63400	1	01205	SXD E2C,1	SAVE CONTENTS OF IR1	F3B05310
01024	-0	63400	2	01206	SXD E3C,2	SAVE CONTENTS OF IR12	F3B05320
01025	-0	53400	2	01207	LXD BBOX,2	25 COMPLIMENT OF NO. OF WORDS OF ENTRY	F3B05330
01026	3	77634	2	01036	TXH CIT04,2,-100	TEST IF LESS THAN 100 AND GREATER	F3B05340
01027	-3	00000	2	01036	TXL CIT04,2,0	THAN ZERO • IF SO. COMPILE INSTRUCTION	F3B05350
01030	0	76600	0	00224	WRS 148		F3B05360
01031	0	53400	1	01141	LXA M1CON,1	SET COUNT IN IR 1 TO ZERO	F3B05370
01032	0	70000	1	02526	CIT01 CPY CIB,1	REFILL BUFFER	F3B05380



01121	0	00000	0	01170	PAT31	HTR L(XIT)	XIT	
01122	0	00000	0	01175	PAT32	HTR ZERO		
01123	0	00000	0	01175	PAT33	HTR ZERO		
01124	0	07400	4	01022	PAT34	TSX CIT00,4		
01125	0	00000	0	01174	PAT35	HTR L(LOC)	+003777000370	
01126	0	00000	0	01171	PAT36	HTR L(HPR)	HPR	
01127	0	00000	0	01175	PAT37	HTR ZERO		
01130	0	00000	0	01201	PAT38	HTR L(1.7)	000001000007	
01131	0	07400	4	01022	PAT39	TSX CIT00,4		
01132	0	00000	0	01175	PAT40	HTR ZERO		
01133	0	00000	0	01172	PAT41	HTR L(TRA)	TRA TO FINAL HALT	
01134	0	00000	0	01174	PAT42	HTR L(LOC)		
01135	0	00000	0	01175	PAT43	HTR ZERO		
01136	-0	53400	1	01207	PAT44	LXD BBOX,1	RESTORE COUNT IN IR1	
01137	0	76600	0	00224	RTN	WRS 148		
01140	0	02000	0	00450	PAT46	TRA RET1	BACK TO COMPLETE TERMINAL ROUTINE	
						WORKING STORAGE	AND CONSTANTS	
		00001	A		EQU	1		
		00002	B		EQU	2		
		00004	C		EQU	4		
01141	+000000000000		L(0)		DEC	0		
		01141	MICON		SYN	L(0)		
01142	+000000000001		L(1)		DEC	1		
01143	+000000000002		L(2)		DEC	2		
01144	+000000000003		L(3)		DEC	3		
01145	+000000000004		L(4)		DEC	4		
01146	+000000000010		L(8)		DEC	8		
01147	+0000000001300		L(704)		DEC	704		
01150	+0000000001302		L(706)		DEC	706		
01151	+000001000000		L(1D)		DEC	1B17		
01152	+060000000000		L(6H)		OCT	60000000000		
01153	+120000000000		L(10H)		OCT	120000000000		
01154	+140000000000		L(12H)		OCT	140000000000		
01155	+000004000004		L(5.4)		OCT	4000004		
01156	436724000000		L(LXD)		BCD	1LXD000		
01157	626724000000		L(SXD)		BCD	1SXD000		
01160	636267000000		L(TSX)		BCD	1TSX000		
01161	436747000000		L(LXP)		BCD	1LXP000		
01162	+077777000000		MASK		OCT	77777000000		
01163	+000000077777		AMASK		OCT	77777		
01164	+100000000000		2BIT		OCT	100000000000		
01165	-300000000000		PMASK		OCT	700000000000		
01166	512324000000		L(RCD)		BCD	1RCD000		
01167	234770000000		L(CPY)		BCD	1CPY000		
01170	673163000000		L(XIT)		BCD	1XIT000		
01171	304751000000		L(HPR)		BCD	1HPR000		
01172	635121000000		L(TRA)		BCD	1TRA000		
01173	+170000000000		L(15H)		OCT	170000000000		
01174	+003777000370		L(LOC)		OCT	3777000370		
01175	0 00000 0 00000		ZERO		PZE			
01176	+000001000000		ONED		DEC	1B17		
01177	+000002000000		L(2D)		DEC	2B17		
01200	+000000000007		L(7-)		DEC	7		
01201	+000001000007		L(1.7)		OCT	1000007		

F3B05930  
 F3B05940  
 F3B05950  
 F3B05960  
 F3B05970  
 F3B05980  
 F3B05990  
 F3B06000  
 F3B06010  
 F3B06020  
 F3B06030  
 F3B06040  
 F3B06050  
 F3B06060  
 F3B06070  
 F3B06080  
 F3B06090  
 F3B06100  
 F3B06110  
 F3B06120  
 F3B06130  
 F3B06140  
 F3B06150  
 F3B06160  
 F3B06170  
 F3B06180  
 F3B06190  
 F3B06200  
 F3B06210  
 F3B06220  
 F3B06230  
 F3B06240  
 F3B06250  
 F3B06260  
 F3B06270  
 F3B06280  
 F3B06290  
 F3B06300  
 F3B06310  
 F3B06320  
 F3B06330  
 F3B06340  
 F3B06350  
 F3B06360  
 F3B06370  
 F3B06380  
 F3B06390  
 F3B06400  
 F3B06410  
 F3B06420  
 F3B06430  
 F3B06440  
 F3B06450  
 F3B06460

```

01202 +0000000000005 M3ECTR DEC 5
01203 +0000000000370 L(370) OCT 370
01204 0 00000 0 00000 E1C CELL FOR SAVING MQ
01205 0 00000 0 00000 E2C CELL FOR SAVING IRA
01206 0 00000 0 00000 E3C CELL FOR SAVING IRB
01207 0 00000 0 00000 BBOX 2S COMP OF NO OF WORDS ALREADY ENTERED IN BLOCK
01210 0 00000 0 00000 E2M3
01211 0 00000 0 00000 E3M3

01212 0 00000 0 00000 TFGWC SENSE LITE 98 ON FOR END OF TIFGO FILE
01213 0 00000 0 00000 TFGCFN TIFGO WORD COUNT
01214 TFGCOM BSS 4 CURRENT FORMULA NUM FOR TIFGO INSTRUCTION
TIFGO COMPILER
SENSE LITE 97 ON FOR END OF FIRST FILE
01220 0 00000 0 00000 FFLWC FIRST FILE WORD COUNT
01221 0 00000 0 00000 FFLCFN CURRENT FORMULA NUM FOR FIRST FILE INSTR
01222 FFLCOM BSS 4 FIRST FILE COMPILER
01226 0 00000 0 00000 PZE
01227 0 00000 0 00000 PZE
01230 TSXCOM BSS 502
01230 FIXCON SYN TSXCOM
02216 TFGBUF BSS 100 TIFGO BUFFER
02362 FFLBUF BSS 100 FIRST FILE BUFFER
02526 CIB BSS 100
02673 ORG 1467
02673 0 60200 0 01226 TSXPT1 SLW TSXCOM-2
02674 0 07400 4 00654 TSX READTF,4
02675 0 07400 4 00700 TSX READFF,4
02676 -0 76000 0 00141 MSE 97
02677 0 02000 0 02702 TRA TSXPT2
02700 0 76000 0 00141 PSE 97
02701 0 02000 0 00076 TRA M30050+3
02702 0 50000 0 01230 TSXPT2 CLA TSXCOM
02703 0 34000 0 02362 CAS FFLBUF
02704 0 02000 0 00076 TRA M30050+3
02705 0 02000 0 00076 TRA M30050+3
02706 0 50000 0 01230 CLA TSXCOM
02707 0 62200 0 01221 STD FFLCFN
02710 0 07400 4 00724 TSX M31000,4
02711 0 02000 0 00076 TRA M30050+3
00030 END 24

```

```

F3B06470
F3B06475
F3B06480
F3B06490
F3B06500
F3B06510
F3B06520
F3B06530
F3B06540
F3B06550
F3B06560
F3B06570
F3B06580
F3B06590
F3B06600
F3B06610
F3B06620
F3B06630
F3B06640
F3B06650
F3B06660
F3B06670
F3B06680
F3B06681
F3B06682
F3B06683
F3B06684
F3B06685
F3B06686
F3B06687
F3B06688
F3B06689
F3B06690
F3B06691
F3B06692
F3B06693
F3B06694
F3B06695
F3B06696
F3B06700

```

1  
 REM 704 FORTRAN II, 4-1-6-2 SYSTEM  
 704 FORTRAN II, 4-1-6-2 SYSTEM  
 SECTION 4 - FLOW ANALYSIS  
 ROBERT C. BRILL - NOVEMBER 13, 1958

F4400010

NOTE - THIS LISTING CORRESPONDS TO THE FORTRAN II 4-1-6-2  
 SYSTEM TAPE. TO MAKE IT CORRESPOND TO THE 8-1-6-2 SYSTEM  
 TAPE MAKE THE FOLLOWING CHANGES IN THIS LISTING.  
 IN RECORD F0730000, LOCATION 77, CHANGE  
 000674000000 TO 003140000000  
 IN RECORD F0730000, LOCATION 632, CHANGE  
 000000000215 TO 000000001037

# DEFINITION STATEMENTS

00215 BBBB.J SYN 141  
 00674 BBSIZE SYN 444

04230 NOINS SYN 2200

00454 ZINSTM SYN 300  
 00144 ZINSTR SYN 100  
 01274 ZBB SYN 700  
 00310 ZTIFRD SYN 200  
 01750 XFRET= SYN 1000  
 00372 ZFRET= SYN 250  
 00620 XSET SYN 400  
 00310 ZSET SYN 200  
 00031 ZNLIST SYN 25  
 05360 XTRA SYN 2800  
 01274 ZTRA SYN 700  
 00017 ZTAG SYN 15  
 00000 XXXXXX SYN 0

00004 RDFORT SYN 4

07774 BBOX.= SYN 4092  
 07775 DOBOX= SYN 4093  
 07776 SSBOX= SYN 4094  
 07777 TTBOX= SYN 4095  
 07775 SUCCBX SYN 4093  
 07776 PREDBX SYN 4094  
 07777 BBTBOX SYN 4095  
 00221 SYSTAP SYN 145  
 00222 TBLTAP SYN 146

THESE FIRST TWO DEFINITIONS MAKE  
 THE PROGRAM COMPATIBLE WITH  
 SECTION 5 (TAG ANALYSIS). THEIRF4400170  
 VALUES ARE THOSE OF PREDL (BLOCKF4400180  
 LENGTH OF PRED TABLE) AND 6\*BBBLF4400190  
 (BLOCK LENGTH OF BB TABLE) RES- F4400200  
 PECTIVELY, AS GIVEN IN THE F4400210  
 SECTION 5 LISTING. F4400220  
 BLOCK LENGTH OF COMPILED F4400230  
 INSTRUCTION TABLE (CIT)-PART 1 F4400240  
 SAME AS PREVIOUS - PART 2 F4400250  
 SAME AS PREVIOUS - PART 6 F4400260  
 LENGTH OF BB LIST F4400270  
 BLOCK LENGTH OF TIFRD F4400280  
 TABLE LENGTH AND DRUM ADD FOR FRET F4400290  
 BLOCK LENGTH OF FRET F4400300  
 LENGTH OF SET TABLE F4400310  
 BLOCK LENGTH OF SET TABLE F4400320  
 LENGTH OF NLIST F4400330  
 LENGTH OF TRA TABLE F4400340  
 BLOCK LENGTH OF TRA TABLE F4400350  
 BLOCK LENGTH OF TAGLIST F4400360  
 THE APPEARANCE OF THIS SYMBOL IN F4400370  
 THE LISTING INDICATES THAT ITS F4400380  
 VALUE IS SET BY THE PROGRAM. F4400390  
 A TSX RDFORT,4 CALLS IN THE DIAG- F4400400  
 NOSTIC ROUTINE. A RDS SYSTAP F4400410  
 FOLLOWED BY A TRA RDFORT CALLS F4400420  
 IN THE NEXT RECORD OF THE F4400430  
 FORTRAN PROGRAM. F4400440  
 THE FOLLOWING ARE THE ADDRESSES F4400450  
 OF SPECIAL COUNTERS F4400460  
 F4400470  
 F4400480  
 F4400490  
 F4400500  
 F4400510

FORTRAN SYSTEM TAPE (LOGICAL 1)  
 TIFGO, TRAD, FRET, AND DOTAG

F4400010  
 F4400020  
 F4400030  
 F4400040  
 F4400050  
 F4400060  
 F4400070  
 F4400080  
 F4400090  
 F4400100  
 F4400110  
 F4400120  
 F4400130  
 F4400140  
 F4400150  
 F4400160  
 F4400170  
 F4400180  
 F4400190  
 F4400200  
 F4400210  
 F4400220  
 F4400230  
 F4400240  
 F4400250  
 F4400260  
 F4400270  
 F4400280  
 F4400290  
 F4400300  
 F4400310  
 F4400320  
 F4400330  
 F4400340  
 F4400350  
 F4400360  
 F4400370  
 F4400380  
 F4400390  
 F4400400  
 F4400410  
 F4400420  
 F4400430  
 F4400440  
 F4400450  
 F4400460  
 F4400470  
 F4400480  
 F4400490  
 F4400500  
 F4400510  
 F4400520  
 F4400530

00223 TAGTAP SYN 147  
 00223 BLT SYN 147  
 00224 INSTTP SYN 148  
 00301 TIFDRM SYN 193  
 00301 DOCDRDR SYN 193  
 00301 DODRUM SYN 193  
 00301 TRADRM SYN 193  
 00302 FRTDRM SYN 194  
 00303 BBLDRM SYN 195  
 00303 SETDRM SYN 195  
 01750 TIFADD SYN 1000  
 03270 DOADDR SYN 1720  
 02260 BBLADD SYN 1200  
 01750 FRTADD SYN 1000  
 01275 SETADD SYN 701  
 07773 BBLIST SYN 4091  
 06500 DOLIST SYN BBLIST-ZBB+1  
 06024 INST.A SYN DOLIST-300  
 06024 TIFRD SYN DOLIST-300  
 03710 TRAD.= SYN TIFRD-1100  
 06023 FRET.= SYN DOLIST-301  
 06023 DVFG.= SYN FRET.=  
 04216 DOTAG SYN DVFG.=-301-600  
 04216 DOCARE SYN DOTAG  
 06024 TRA..M SYN DOLIST-300  
 04524 SET..M SYN TRA..M-ZTRA-4  
 04214 TIFRDM SYN SET..M-200  
 03703 INST.M SYN TIFRDM-201  
 07774 SETLOC SYN BBLIST+1  
 07773 TRATBL SYN BBLIST  
 02413 BBTABL SYN TRATBL-2800  
 02414 FIXDOS SYN BBTABL+1  
 01114 NLIST SYN BBTABL-ZBB-3  
 01062 FRET SYN NLIST-26  
 01062 SETTAB SYN NLIST-25-1  
 01260 SNSLT SYN NLIST+100  
 01120 DOBLOK SYN BBTABL-ZBB+1  
 00443 LCNTR SYN DOBLOK-300-1  
 06500 TAG SYN BBLIST-ZBB+1  
 06460 INST.R SYN TAG-15-1  
 06314 BBTAGS SYN INST.R-100  
 06024 INSTA SYN INST.A  
 03703 INSTM SYN INST.M  
 06460 INSTR SYN INST.R  
 07773 PRED SYN TRATBL  
 04524 SETM SYN SET..M  
 06024 TRAM SYN TRA..M  
 01574 BGINS SYN INSTA-NOINS  
 04053 FRETN= SYN FRET.=-1000  
 04530 NDTRA SYN TRAM-700  
 03227 NDINS SYN INSTM-300  
 03704 NTIFR SYN TIFRDM-200  
 07464 NDSET SYN SETLOC-ZSET

TAPE (LOGICAL 2)  
 TAGLIST TAPE (LOGICAL 3)  
 BBLIST TAPE (LOGICAL 3)  
 CIT TAPE (LOGICAL 4)  
 TIFRD DRUM (LOGICAL 1)  
 DOCARE DRUM (LOGICAL 1)  
 DOLIST DRUM (LOGICAL 1)  
 INITIAL TRA TABLE DRUM (LOGICAL 1)  
 FRET DRUM (LOGICAL 2)  
 BBLIST DRUM (LOGICAL 3)  
 SET DRUM (LOGICAL 3)  
 DRUM ADDRESS FOR TIFRD  
 DRUM ADDRESS FOR DO LIST  
 DRUM ADDRESS FOR BB LIST  
 DRUM ADDRESS FOR FRET  
 DRUM ADDRESS FOR SET TABLE  
 THE FOLLOWING ARE THE BASE  
 ADDRESSES OF ALL TABLES

F4400540  
 F4400550  
 F4400560  
 F4400570  
 F4400580  
 F4400590  
 F4400600  
 F4400610  
 F4400620  
 F4400630  
 F4400640  
 F4400650  
 F4400660  
 F4400670  
 F4400680  
 F4400690  
 F4400700  
 F4400710  
 F4400720  
 F4400730  
 F4400740  
 F4400750  
 F4400760  
 F4400770  
 F4400780  
 F4400790  
 F4400800  
 F4400810  
 F4400820  
 F4400830  
 F4400840  
 F4400850  
 F4400860  
 F4400870  
 F4400880  
 F4400890  
 F4400900  
 F4400910  
 F4400920  
 F4400930  
 F4400940  
 F4400950  
 F4400960  
 F4400970  
 F4400980  
 F4400990  
 F4401000  
 F4401010  
 F4401020  
 F4401030  
 F4401040  
 F4401050  
 F4401060  
 F4401070

END OF INST. BLOCK (PART 1)  
 BEGINNING OF FRET (PART 1)  
 END OF TRA TABLE BLOCK (PART 2)  
 END OF INST. BLOCK (PART 2)  
 END OF TIFRD BLOCK (PART 2)  
 END OF SET BLOCK (PART 3)